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The ILLINOIS Medical Journal

VOL. 82 NO. 6

December, 1942

(See page 23 for Table of Contents)

OFFICIAL JOURNAL OF THE ILLINOIS STATE MEDICAL SOCIETY

Relief FROM PAIN

for the Arthritic Patient

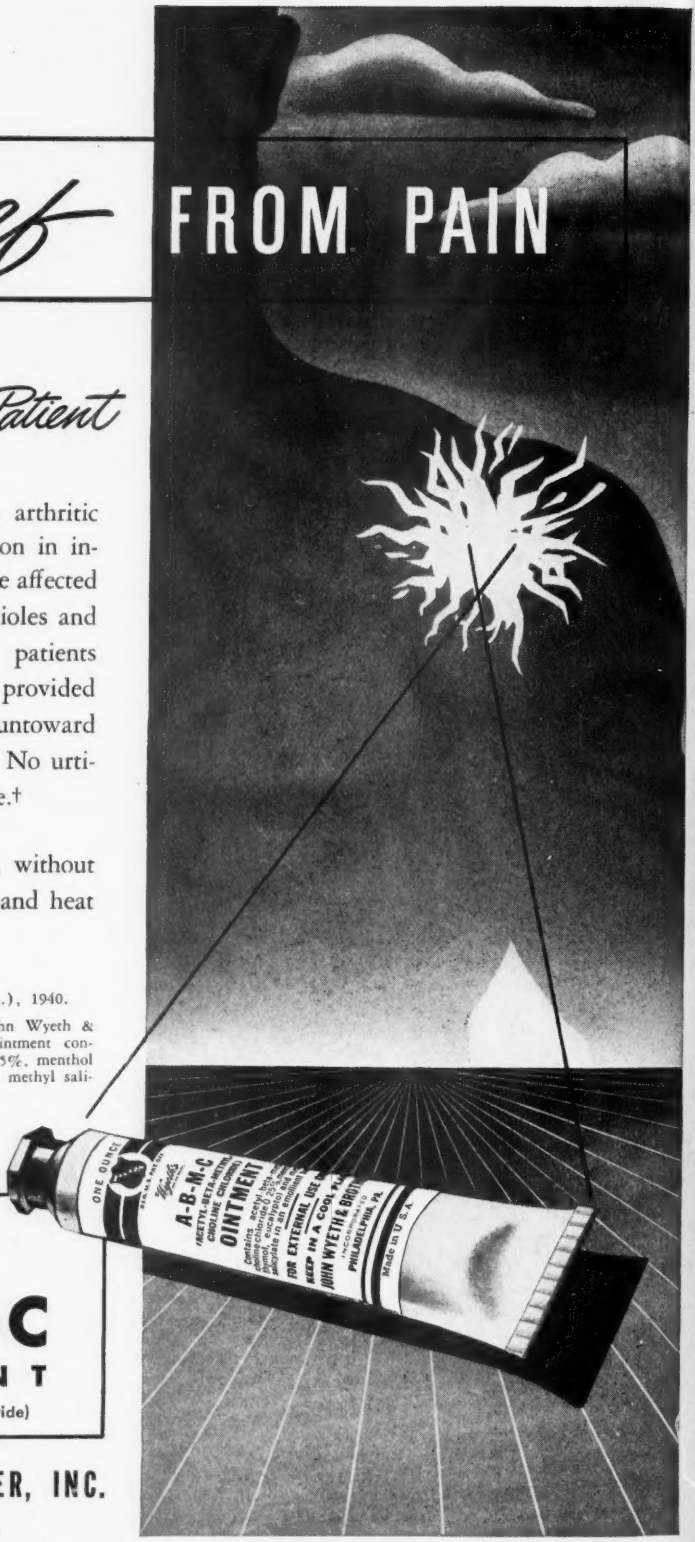
A-B-M-C Ointment* relieves arthritic pain because of its local action in increasing the blood supply to the affected part by dilatation of the arterioles and capillaries. In 88% of 96 patients studied, A-B-M-C Ointment provided relief from pain without any untoward effects when used as directed. No urticaria was produced in any case.†

A-B-M-C Ointment is spread, without rubbing, on the affected part and heat is applied for 20 minutes.

†Archives of Physical Therapy, 21, 12 (Jan.), 1940.

*A-B-M-C Ointment is a trademark of John Wyeth & Brother, Incorporated, for its brand of ointment containing acetyl-beta-methylcholine chloride 0.25%, menthol 5.5%, thymol 0.1%, eucalyptol 1.0%, and methyl salicylate 11.0%, in an emollient base.

Supplied in 1-ounce tubes



Wyeth's

A-B-M-C

OINTMENT

(Acetyl-beta-methylcholine chloride)

JOHN WYETH & BROTHER, INC.

PHILADELPHIA, PA.

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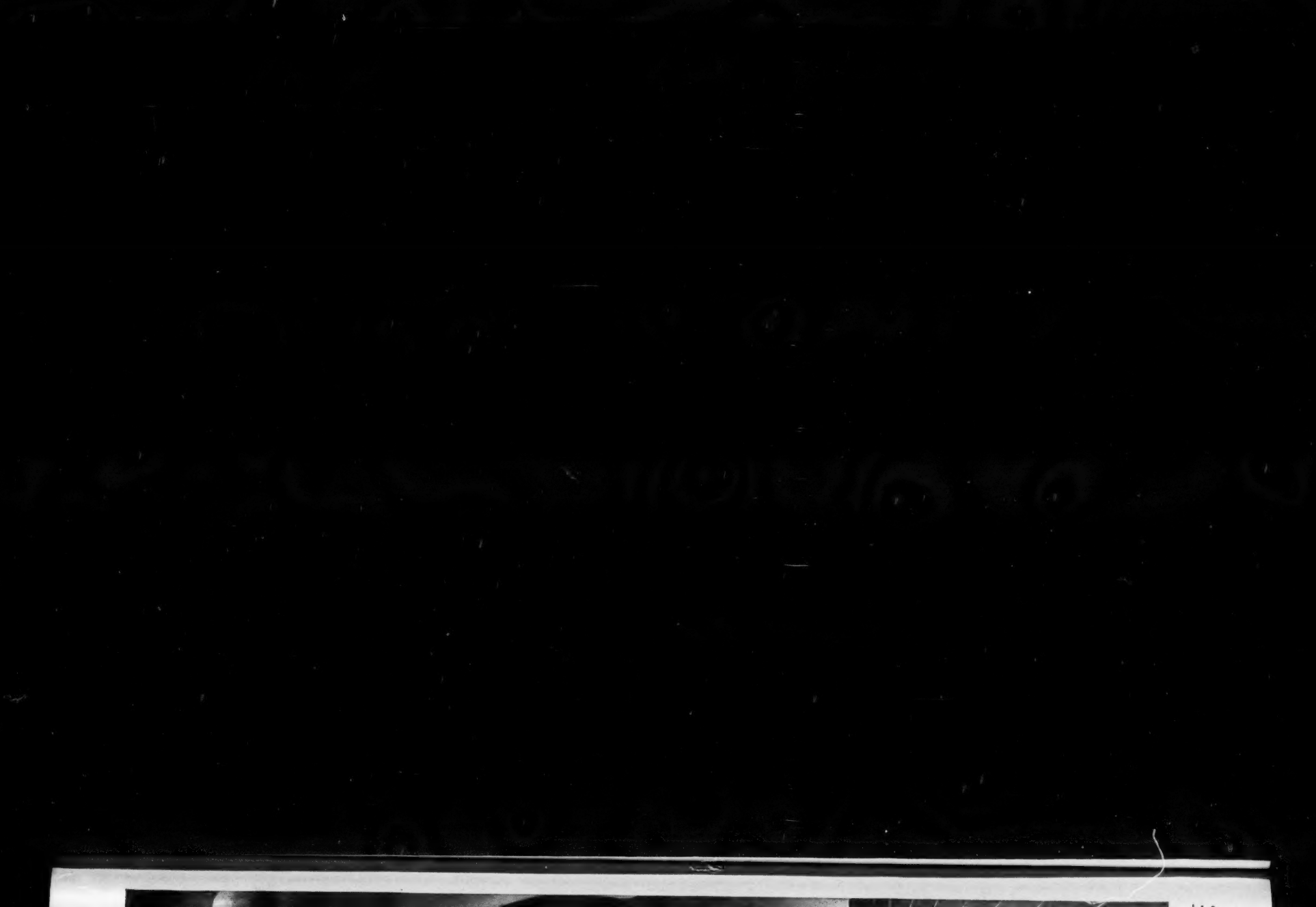

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The Illinois Medical Journal

December, 1942

VOL. 82, NO. 6

Official Journal of the Illinois State Medical Society

EDITOR — Harold M. Camp. EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry S. Gradle, Philip H. Kreuscher, Harry Culver.

Editorials

WHAT VITAMINS DO I NEED?

It has long been known that inadequate diet causes disease. Beriberi was described as early as the seventh century; scurvy during the thirteenth century and pellagra nearly two centuries ago. Rickets was known to be caused by an absence of a specific element in the system nearly one hundred years ago and efforts were made even then to supply that which was missing.

No one can deny that there are present certain definite avitaminoses although clinically these cases are seen rarely in the usual daily routine. The real basis for the present knowledge concerning vitamins dates back approximately 35 years. The names of Funk, Hopkins, McCullum and Davis are intimately associated with the earlier developments. To Funk is attributed the selection of the term "vitamines" when he extracted from rice polishings a crystalline substance which experimentally cured beriberi.

A few years later Drummond suggested the dropping of the terminal "e" from the word, "vitamine" as it was found that the "amine" groups were not characteristic of "vitamines". At the present time there are generally considered between 20 and 24 vitamins for which evidence of existence is well established.*

Avitaminoses therefore are deficiency diseases as contrasted with the larger group of infectious diseases. It is stated that although avitaminoses are rarely the cause of death, they may be a contributory factor. It seems quite probable that the important vitamins have now been discovered, and although there may be others unrecognized which are essential to the well-being of man, those causing definite deficiencies are probably included in the present postulated list.

"What vitamins do I need?" is one of the questions frequently asked of physicians these days by many of their patients. Since several of the reliable pharmaceutical houses of this country brought out a number of vitamin preparations a few years ago, it has become increasingly popular for many smaller concerns, many of which have no research facilities in their plants, to put out several or perhaps most of the recognized vitamins which are considered essential to man.

When one listens to his favorite radio program and shops around to get other stations when his favorite is finished, he can almost invariably hear a talk on someone's vitamin preparations, which every man, woman and child should take to insure the proper normal intake of these vital chemical substances. The larger mail order houses sending out catalogues through the length and breadth of the land, invariably has a list of vitamin preparations which can be purchased by anyone. Likewise, in many of the corner groceries, vitamin preparations may be found on the shelves, and someone in the organization will be prepared to tell what type and dosage most people need.

*Eddy and Dalldorf.

It is surprising that with their lack of information on vitamins, and their essential position in the well being of the human family, that our forefathers were able to carry on with the many hardships they had to undergo to settle this country. Yet many of them lived to a ripe old age, even though in their later days they were denied modern dental service and had to literally gum most of the food that went into their systems.

Many people during the past half century have been food faddists, and have denied themselves many of the essential foods, and consequently, their vitaminic content which we know today they need to enjoy the best of health. On the other hand, the average individual who eats a well balanced diet consisting of meat, cooked and raw fruit, as well as fruit juices, vegetables and milk, is rarely troubled with the deficiency diseases caused in toto or in part, by a lack of vitamins.

In recent years carrots cooked or raw have been found on the tables in many homes and are relished by many along with celery or other similar vegetables. These are among the richer sources of vitamin A and it has been possible to determine the average daily requirements of this as well as that of most others among the essential vitamins. Two thousand international units of vitamin A are considered this normal daily requirement, and in addition to carotene as a food rich in vitamin A, the average daily amount can perhaps invariably be found in a daily intake of milk, butter, eggs, and green leafy vegetables.

Codliver oil, as well as the liver oils of a number of other fish including the lowly shark, are rich in vitamin A, as well vitamin D. The source, nature and indications for the other generally recognized essential vitamins are well known to the modern physician, and it is not intended in this short review of the subject to discuss these features.

Recent research investigations have shown that

ILLINOIS STATE MEDICAL SOCIETY

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State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

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in foods, perhaps most of these factors are found in the form of provitamins, and they are converted into vitamins in the body through certan chemical processes.

Radio stations are largely maintained through their income from sponsors and perhaps they should not be criticized too severely when many superlative statements are made in connection with the "commercials" which must be a part of each broadcast. Yet, many times misleading statements are made which have a tendency to scare some of the listeners, intentionally or otherwise.

When American people as a whole are educated to the fact that their family physician is the one best qualified to give authoritative information on matters pertaining to health, and give them definite information as to the best diet for their well being and recommend preparations which may be indicated to overcome deficiencies, then only may they properly be fortified against the inroads of disease.

In the proper consideration of vitamins especial efforts should invariably be made to insure an adequate diet, and perhaps an increase in certain food elements or their concentrates which may be lacking, can be well cared for through these changes in diet. A list of essential foods containing the important vitamins and the proper amount of each to be taken can be placed in the hands of all patients by their physician.

When there is a reason for suspecting an insufficiency of any of these essential vitamins, the physician is the proper person to give the necessary advice and make the recommendations for supplying the missing factors. When prescribing reducing diets or special diets for disease it should be seen that an adequate intake of essential vitamins are included in the consideration or otherwise a deficiency may develop.

THE POST GRADUATE CONFERENCES

Owing to the additional responsibilities of the members of the medical profession remaining at home during the war, and also the present tire situation, gasoline rationing and other factors which have never before impaired travel in Illinois, the Post Graduate Committee, with the approval of the Council, decided to hold a few post graduate conferences during the fall and early spring. Subjects of general interest to all physicians were chosen.

The first of the present series was held in Mt. Vernon on October 8th with the following program:

1. Management of Burns — Bryce B. Reeve, M. D., Director of the Medical Department, Standard Oil Company of Indiana, Chicago.
2. Recognition and Treatment of Shock — Arkell M. Vaughn, M. D., Associate Clinical Professor of Surgery, Loyola University Medical School, Chicago.
3. Treatment of Soft Tissue Injuries — Frederick W. Slobe, M. D., Medical Director of Automatic Electric Company and Sinclair Refinery, Chicago.
4. The Minimum Requirement in Treatment of Fractures — J. J. Callahan, M. D., Associate Professor of Surgery, Loyola University Medical School, Chicago.
5. The Oral, Intravenous and Intra-abdominal Use of the Sulfonamides — H. Close Hesseltine, M. D., Assistant Professor of Obstetrics and Gynecology, University of Chicago School of Medicine, Chicago.
6. The Doctor Goes to War — R. F. Olmsted, M. D., Lt. Col., Chief, War Department, Medical Department Officer Recruiting Board, Chicago.

   The Doctor Goes to War — Harold M. Camp, M. D., Chairman for Illinois, Procurement and Assignment Service for Physicians, Monmouth.

* * * *

The second meeting was held in Peoria on October 22nd with the same program as was presented at Mt. Vernon, but with Chester R. Zeiss, M. D., Surgeon for the Carnegie-Illinois Steel Corporation presenting the subject on "Treatment of Burns". Arrie Bamberger, M. D., Associate Professor of Surgery, University of Illinois College of Medicine, Chicago, discussed "Treatment of Soft Tissue Injuries". Italo F. Volini, M. D., Professor of Medicine, Loyola University School of Medicine, Chicago, talked on the "Oral, Intravenous and Intra-abdominal Uses of the Sulfonamides", and Warren H. Cole, M. D., Professor of Surgery, University of Illinois College of Medicine, Chicago, discussed the subject, "Recognition and Treatment of Shock."

Lt. Col. J. L. Deuterman of the U. S. Army Medical Corps, presented a talking film on Gas Poisoning and discussed that subject in a most informative manner. Dr. J. J. Callahan of Chicago appeared on this program also and presented the same subject as at Mt. Vernon.

The local chairmen who presided at these meetings, in their reports to the Post Graduate Committee, were highly pleased with their programs, the interest and the attendance. They stated: "In times like this, I think the program you furnished us could not be excelled, and the speakers were all that one could desire."

"The program was marvelous and every doctor I have contacted has had only the highest praise for all your speakers. You could not have done better in your selection of speakers, and their topics. In behalf of our medical society, I wish to thank you very much for your interest in this matter."

It is the present intention of the Post Graduate Committee to have at least two more of these conferences. It is quite probable that the same, or similar subjects, will be selected as they are subjects of general interest to all physicians at this time when so many are working in the many war industries throughout Illinois, and our doctors are called upon to care for these types of injuries.

THE AMERICAN MEDICAL DIRECTORY

The seventeenth edition of the American Medical Directory was published recently by the American Medical Association. Thousands of physicians throughout the country who have waited many months during its preparation have been highly elated at the contents of this unusual volume. It has been known for months that the task of editing and publishing this large and complete Directory has been especially difficult because of the war and the many additional duties placed upon the A. M. A. personnel.

The A. M. A. Directory is the only complete medical directory published in this country and it gives complete data not only relative to the large number of physicians in the United States and Canada, but also much information of interest to its many subscribers.

There are 180,496 physicians listed in the Directory for the United States, 12,582 for Canada, 5,407 for the U. S. Dependencies, thus making a grand total of 201,272 physicians listed therein. Much information is given relative to the 6,292 hospitals, sanitoriums and related institutions.

Complete information is given relative to the medical schools of the United States and Canada, with a list of all schools which have been in operation in all state and provinces. Lists of Medical Officers of the U. S. Army, U. S. Navy, U. S. Public Health Service, and those in the Veterans Administration are given with information concerning these men.

Each state and province is listed separately with the population of each, the number of physicians licensed, the officers of state and constituent county medical societies, data concerning all approved hospitals within each state, the medical practice act, and the state and county health officers are included by states.

Then follows a complete list of all physicians by city or town of their residence with age of the physician, school from which he graduated, year of license, etc. Membership in state, county or social societies is shown by proper symbols, and Fellowship in the A. M. A. is likewise designated.

A list of all presidents of the American Medical Association from its organization in 1847 is given and it will be of interest to Illinois readers to learn that Illinois physicians have headed the A. M. A. on seven occasions, one of these men acting as president for two consecutive years during the Civil War. The list is as follows:

Nathan S. Davis	1864-1865
Nicholas Senn	1897
Frank Billings	1903
John B. Murphy	1911
Arthur D. Bevan	1918
William Allen Pusey	1924
Malcolm L. Harris	1929

This is really a large book with more than 2,800 pages all filled with information which is of material interest to many physicians throughout the country, to life insurance companies, to industrial and governmental agencies, and to many other groups having occasion to use the reliable information given here on the physicians of the United States and Canada.

The price of the volume is $18.00 and it is published by the American Medical Association, 535 North Dearborn Street, Chicago.

PAPERS FOR THE 1943 ANNUAL MEETING

The Illinois State Medical Society is planning to hold the 1943 annual meeting scheduled for Chicago, on May 18, 19, 20 at the Palmer House. At a recent meeting this matter was thoroughly discussed by the Council, then later by the Committee on Scientific Work and plans are now being made for an outstanding program which it is hoped will be of general interest to all physicians. The 1943 meeting will be considered a war meeting, and efforts will be made to feature the role of medicine in war time and also extend invitations to the many medical officers in the Army and Naval forces stationed in Illinois to attend the meeting and participate in the discussions.

There will be more general sessions scheduled than usual, with all of the scientific sections participating, but provisions will be made for individual sections to conduct their own technical sessions during the meeting.

Members of this Society who desire to present papers before any of the sections are requested to write to the officers of the proper section giving the information, and including the title of the paper, and a short synopsis or abstract so that the officers will be better enabled to determine whether or not the paper will fit in with the program scheme, and also keeping in mind the fact that with so many general sessions, there will be less time than usual available for technical subjects.

SECTION OFFICERS — 1943

SECTION ON MEDICINE

* M. Herbert Barker, Chairman.....
.....700 N. Michigan Ave., Chicago, Ill.
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.....6 N. Michigan Blvd., Chicago, Ill.
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.....Springfield, Ill.

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J. R. Buchbinder, Secretary.....
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.....4753 Broadway, Chicago, Ill.
C. J. Heiberger, Secretary.....
.....Peoria, Ill.

NOTE: The Section on Pediatrics and the Section on Obstetrics and Gynecology are required to divide the time equally during the meeting, and cannot meet simultaneously unless in joint session.

Physicians interested in presenting papers at the 1943 meeting should write to the above named officers.

* In service.

** A vice-chairman to be appointed.

MEET THE POET LAUREATE

In this number of the Illinois Medical Journal, a new column is made available for some poetic expressions from the "poet laureate" of the Illinois State Medical Society. For many years, Dr. Charles G. Farnum of Peoria, has had a page in the monthly Peoria Medical Bulletin under the heading "P.R.N." Hundreds of physicians throughout Illinois and in neighboring states have been greatly interested in this page and many have asked why the Illinois Medical Journal has not endeavored to get Dr. Farnum to assume responsibility for a similar page, or column each month.

For some little time efforts have been made

to persuade this author-poet to submit some of his interesting "musings" and at long last he has consented to do so. We hope to print each month under his favorite heading "P.R.N.", some bits of verse and nonsense, as Dr. Farnum refers to his hobby.

"I HEAR THAT ....."

One of the most potent weapons which the Nazis introduced to modern warfare, a weapon which hastened the downfall of France, is the deliberate propagation of rumor. It is a weapon against which Americans must steel themselves with unceasing vigilance, for all the tanks, guns and ships in the world cannot bar its entry into our homes.

When the Nazi legions were rolling through the Lowlands, their civilian agents were busy among the people of France spreading rumors coldly calculated to alternately bolster and to undermine the morale of the French. Even before the Germans had entered France, the people heard that their government had fled; that Russia and the United States had declared war on Germany; that Great Britain had surrendered.

The conflict of ensuing rumors served well the aim of the Nazis to confuse and befuddle the French, and what semblance of unity the French possessed soon disappeared.

It is worth noting how at least one Russian guerrilla commander solved this problem in his own unit. Severe punishment was meted out to anyone who said, "I hear that . . . ." or "I understand that . . . ." Unless the man could say "I, myself, saw . . . ." he was to say nothing.

The next time someone tells you that he has it "on good authority" and so forth, just ask him, "Was you there, Charlie?"

MYOMECTOMY DURING PREGNANCY

Fibroid tumors of the uterus usually have no harmful effect on a coexisting pregnancy. However, the patient should be kept under careful observation for complications such as miscarriage or premature labor, obstruction to the descent of the presenting part and degeneration of the fibroid. So-called "red degeneration" of the tumor is the type usually found, and it occurs most frequently during the puerperium, probably because involution disturbs its blood supply. Degeneration may also occur during the prenatal period. Its onset is always marked by pain, occasionally accompanied by fever and leukocytosis. When the degeneration is slight, the symptoms may be relieved by medical treatment, but in the severer types, the tumor should be removed. Interruption of the pregnancy should not result from the operation. On the contrary, myomectomy seems to prevent miscarriage. Corpus-luteum hormone and wheat-germ oil should be administered prophylactically, whether the fibroid is treated conservatively or removed.—R. J. Hefferman, M.D., New Engl. J. Med., 1941. (Clinical Abstract.)

YESTERDAY, TODAY AND TOMORROW

There are two days in every week about which we should not worry — two days which should be kept free from fear and apprehension.

One of these days is yesterday with its mistakes and cares, its aches and pains, it faults and blunders. Yesterday has passed forever beyond our control.

All the money in the world cannot bring back yesterday. We cannot undo a single act we performed; we cannot erase a single word we said. Yesterday is gone.

The other day we should not worry about is tomorrow with its possible adversities, its burdens, its large promise and poor performance. Tomorrow also is beyond our immediate control.

Tomorrow's sun will rise either in splendor or behind a mask of clouds — but it will rise. Until it does, we have no stake in tomorrow, for it is as yet unborn.

That leaves only one day — today. Any man can fight the battles of just one day. It is only when you and I add the burdens of those two awful eternities — yesterday and tomorrow — that we break down.

It is not the experience of today that drives men mad — it is remorse or bitterness for something which happened yesterday and the dread of what tomorrow may bring. Let us, therefore, journey but one day at a time.—L. H. P., Penn. Med. Jour.

★ BUY WAR BONDS ★

Correspondence

COURSE IN OCCUPATIONAL DERMATOSES

A combined lecture and demonstration course in occupational dermatoses will be conducted in Chicago, beginning January 11, 1943, by Dr. Louis Schwartz, Chief of the Dermatoses Investigations Section of the U. S. Public Health Service of Bethesda, Maryland. The teaching period will cover two weeks, the first of which will be devoted to lectures and demonstration, and the second to plant visits. Dermatologists, industrial physicians and others interested in the course should communicate with

Dr. Edward A. Oliver
55 East Washington Street
Chicago, Illinois

No limit will be placed upon enrollment for the lectures but the visits to the plants will be limited to twenty-four enrollees. No fees will be charged.

SOCIAL HYGIENE DAY

Social Hygiene Day will take its battle stations throughout the country as in former years, despite the gasoline and rubber restrictions which are in force this year. Doctor Walter Clarke, Executive Director of the American Social Hygiene Association, in announcing the annual observance scheduled for Wednesday, February 3, 1943, said that this battle on the home front against venereal disease is nation-wide and does not depend upon transportation to rally its fighting forces. Community meetings will take place throughout the land, sponsored by local clubs, church groups, and social and health agencies.

Last year, when tires and gas were not restricted, Social Hygiene Day was observed by thousands of public meetings held in communities all over the United States, Doctor Clarke explained. He intimated that this number promises to be greatly increased in 1943, for the large meetings, serving metropolitan areas, will be supplemented by an even greater number of local meetings.

Doctor Clarke pointed out that in wartime more than ever the United States must man its battle stations in every city, town and hamlet in order to stamp out the venereal diseases at their source. Syphilis and gonorrhea are enemies which threaten us at home. They disable our men at the front, but their roots are on the home front. For this reason Social Hygiene Day this year will assume a greater significance than ever before. It will be observed in every community, no matter how small it may be, by discussion of direct action designed to stamp out the two diseases which are as menacing to our armed forces as the bombs of our enemies.

"During the first world war, there were 157,146 more new cases of syphilis and gonorrhea among United States soldiers, sailors and marines," Doctor Clarke explained, "than there were wounds in battles. Total absences from duty due to this infection kept the equivalent of 20,600 men out of the fighting for a whole year, men trained for their country's service, men upon whom their country counted for its defense.

"In terms of today's hard held fronts such a loss would mean the equivalent of the personnel

required to man five huge aircraft carriers and nine destroyers. No axis enemy could be more destructive than this enemy whom we must defeat on health battle fronts within our own country. We do not need to suffer this loss and do not need gas and tires to meet that enemy and to destroy him. We have the scientific weapons to prevent the spread of the venereal diseases. In war time the principal function of social hygiene organizations everywhere is to persuade every community to use these weapons effetively. Intelligent cooperation among the health and welfare agencies in every city and town will help stamp out venereal disease and thus help our armed forces to bring us victory on the battle fronts."

UROLOGY AWARD

The American Urological Association offers an annual award 'not to exceed $500' for an essay (or essays) on the result of some specific clinical or laboratory research in Urology. The amount of the prize is based on the merits of the work presented, and if the Committee on Scientific Research deem none of the offerings worthy, no award will be made. Competitors shall be limited to residents in urology in recognized hospitals and to urologists who have been in such specific practice for not more than five years.

The selected essay (or essays) will appear on the program of the forthcoming meeting of the American Urological Association, May 31 — June 3, 1943, Hotel Jefferson, St. Louis, Missouri.

Essays must be in the hands of the Secretary, Dr. Thomas D. Moore, 899 Madison Avenue, Memphis, Tennessee, on or before March 1, 1943.

WOMAN'S AUXILIARY PRESS AND PUBLICITY

Do you read the letters from your president and chairmen in our Illinois State Journal — and do you enjoy the little articles telling what is being done by the different county-auxiliaries? Of course you do! Well then — don't you think the other auxiliaries would like to hear what you are doing? Of course they would!

This year, publicity is more important than ever. With the gas rationing and other restrictions (which I am sure we are all accepting in good spirit) we can't get around and visit our auxiliary friends so a nice newsy article will help keep us in touch with each other.

To make it plainer — I'm asking publicity chairmen of all auxiliaries to try to send write-ups of their meetings to their local papers and medical bulletins and then to send the printed copies to me for our Scrap Book. All of our Auxiliaries should be represented in our Archives. I'LL BE LOOKING FOR THAT NOTICE!

Cordially yours,
(Mrs. J. E.) Lucile McGuiggan
State Publicity Chairman.

THE WOMAN'S AUXILIARY
to the Illinois State Medical Society
Program 1942-1943
Mrs. Alfred F. Gareiss
Chairman

Aims

First: To assist the Illinois State Medical Society in the advancement of the prevention of disease.

Second: To aid in securing better legislation indicated in the pursuance of these ends.

Third: To do such supplemental work as shall be determined from time time by the Medical Society in the advancement of professional interests.

Fourth: To increase the Benevolence Fund by the allocation of $1.00 a year per member, and by gratuities and endowments through the efforts of the Woman's Auxiliary to the Illinois State Medical Society.

Resolution

House of Delegates
Springfield, June, 1942.

Be it resolved, that the Woman's Auxiliary be requested to cooperate with officers of their respective county societies in the preparation of such a local county society history.

Program

WAR WORK

1. Sale of Stamps and Bonds
2. Nutrition Courses
3. First Aid Courses
4. Blood Donation

5. Red Cross

HEALTH EDUCATION

through the promotion of "Hygeia," the health magazine.

LEGISLATION

Study Federal, State and Local medical health legislation.

BOOK REVIEWS

Books selected from a recommended list.

PUBLIC RELATION DAY

Speakers to be approved by the Educational Committee.

1. Cancer Control
2. Nutrition
3. Vivisection
4. Infantile Paralysis
5. Pneumonia
6. Maternal Welfare
7. Heart
8. Obesity
9. Tuberculosis

SOURCE OF MATERIAL

Handbook of State Auxiliaries
Constitution and By-Laws
Bulletin of the Woman's Auxiliary to the American Medical Assn.
Educational Committee of the Illinois State Medical Society
Illinois State Medical Journal
Journal of the American Medical Association
Hygeia — the health Magazine
State Board of Health
Illinois Health Messenger
Bureau of Home Economics, Department of Agriculture, Washington, D. C.

APPROVED MATERIAL AND SPEAKERS

May be obtained from Miss Jean McArthur, Illinois State Medical Society, Educational Committee, 30 North Michigan Avenue, Chicago, Illinois.

ENTERTAINED AT TEA

The Woman's Auxiliary to the Chicago Medical Society was entertained at a Tea, October 22nd, by the American Medical Association. A Motion picture "DOCTORS AT WORK" was shown with Dr. W. W. Bauer acting as narrator. There was also a conducted tour of the Laboratories, Libraries, Offices, Exhibits, Printing Presses and Bureau of Investigation.

An extensive program has been carried on by the Defense Chairman Mrs. Harry J. Dooley and her committee. The booth at 30 N. Michigan Ave. has been manned daily from 10:00 A. M. until 4:00 P. M. by Auxiliary members. One hundred and sixty-four women have served in this capacity. Up to October first over $25,000 worth of Bonds and Stamps had been sold since February.

The Hygeia department has been busy renewing and securing subscriptions.

Mrs. Charles W. Stigman
Press & Publicity
Chairman, Cook County

LAUNCH EDUCATIONAL PROGRAM

An intensive educational program on rheumatic fever and heart disease has been launched by the Metropolitan Life Insurance Company with the cooperation and advice of the American Heart Association, the Academy of Pediatrics, and the Crippled Children's Division of the United States Children's Bureau. Beginning this fall, the program will be extended through the first half of 1943.

The purpose of this activity is twofold. Through popular literature, addresses, radio programs, news releases, and advertisements an effort will be made to acquaint the general public with the newer knowledge of rheumatic fever and rheumatic heart disease. This phase of the program will stress the importance of early diagnosis, proper care for rheumatic fever victims, and the declining mortality rate among children in the younger age groups. The Metropolitan is using the services of its Field Staff in this activity. Through its representatives, who operate in some three thousand communities, the Company expects to reach over a million homes with information on rheumatic fever.

An equally important objective of this program will be to distribute to the medical profession up-to-date literature covering various aspects of the rheumatic fever problem. Included among the printed materials for physicians is a clinical booklet which sets forth in concise form the modern concept of the disease, criteria for its early diagnosis and treatment, methods of managing the disease and recognizing its cardiac involvements. This booklet is being developed in collaboration with special committees of the American Heart Association and the Academy of

Pediatrics. The membership of these committees include: Drs. T. Duckett Jones, Arthur C. DeGraff, Ann G. Kuttner, Edward F. Bland, Ethel C. Dunham, O. F. Hedley, Hugh McCulloch, Homer Swift, Stanley Gibson, and A. T. Martin.

This program marks the first time that a national educational campaign has been undertaken to reach the general public and the medical profession with rheumatic fever literature, especially prepared according to the needs and interests of each group.

HAZARDS OF THE MEDICINE CHEST IN BLACKOUTS ARE POINTED OUT

Physcian Warns Against Dangerous Drugs In Poorly Marked Or Mislabeled Bottles That Are Too Easily Accessible

A blackout resulting from defense activities or normal electrical failure may bring needless loss of life if dangerous drugs in poorly marked or mislabeled bottles are too easily accessible, Austin E. Smith, M.D., Chicago, warns in *Hygeia, The Health Magazine* for November. "If the medicine chest is one of those places that has been ignored until you 'have more time,' is not the present moment appropriate for a careful survey of the potential dangers?" he asks. "Perhaps your community may have practice blackouts before you have more time, unless you deliberately create that time.

"A systematic consideration of the pertinent points associated with the home medicine cabinet may easily obviate any attendant dangers. The cabinet should be out of reach of young children. Too often they find that they can easily reach their goal by climbing on the bathtub or washbasin. If the cabinet cannot be kept out of the reach of children it should be fastened securely by a lock, and the key to that lock should be kept out of the reach of children but in a nearby and readily accessible place—such as a hook on the top of the chest, beside the linen closet or behind the bathroom door. If no cabinet is provided in the bathroom, drugs and first aid agents may be kept elsewhere but, above all, they should not be kept in the pantry along with articles of food.

"All bottles should be labeled so that there can be no mistaking the contents or the purposes for which they are intended. If possible, the labeling should permit accidental wetting without defacement of its statements. Any drug of a dangerous character should be kept on the highest shelf and not mixed with ordinary medicinal agents. . . ."

Dr. Smith says that the contents of the medicine cabinet can be divided into two classes: agents which are the result of prescriptions for specific diseases, and agents which are to serve as first aid remedies and as palliative measures for minor complaints which may not require medical attention. He says that the contents should not include patent medicines for self medication of diseases that can be treated successfully only under the guidance of a physician.

"If poisons must be kept, they should not be in the regular medicine chest, but in a separate locked cupboard, and in containers which attract attention to their contents while being opened," Dr. Smith advises. "Boxes or bottles containing poisons should have their covers or corks fastened with adhesive tape, or pins stuck through the cork, to make the user stop and consider before using. If, in spite of all precautions, or because of the absence of precautions, poisons are taken, the following suggestions may help while the arrival of the doctor is awaited:

"Call the doctor at once when poison is suspected. Find out if possible what the patient has taken, so that the doctor may have some warning as to what to bring with him. At least give the doctor a brief and calm description of how the patient acts. . . ."

A teacher in a country school was trying to impress on the minds of the small evacuees the meaning of ARP. He asked the children to give their ideas of a perfect blackout.

Next day the answers were brought and the prize was awarded for this:

"A blind black man, dressed in a black suit, in a coal cellar with the doors shut, on a foggy night, and without a light, groping among the coals for a blind black cat."

—*Saturday Night,* Ireland.

Medical Economics

Edited by R. K. Packard, M.D., Chairman of the Committee on Medical Economics of the Illinois State Medical Society, 826 East 61st Street, Chicago, Illinois.

Trends in our political, social and economic life change rapidly. At times we are astounded by these swift trends in both thinking and action. Just as we are about to lose hope in democracy something happens suddenly, and almost dramatically, and it has always been this way.

The Hoover administration, ushered in during a great wave of prosperity, suddenly found itself facing a great depression. America had been on what might be called a great financial spree, during a great industrial trend, and this spree, as most sprees do, ended up with some kind of a headache. Some economists and most Republicans, including Mr. Hoover himself, maintained, and still maintain, that the depression was the result of the world war and post world war economic conditions. The Democrats and most economists, on the other hand, laid the trouble squarely in the lap of the Republican party and management. The facts are that the depression started about eleven years after the war, and it followed an unprecedented period of prosperity in which the national past time was one of gambling. It must be remembered that during this trend the Republican slogan was "Don't Sell America Short." During this period management declared many extra cash dividends, and stock dividends. Real Estate, both city and farm, gyrated with little consideration of actual value. Paper wealth was great; the ticker was behind, because of the rapid rise of the market with increased cash and stock dividends. Transfer corners in metropolitan areas rose from fifty thousand to five hundred thousand to a million dollars in two or three years. Subdivisions were real blitzes; they were really mobile. Most bankers were caught in the mesh; they were not seasoned generals in fighting this new blitz, and they surrendered their cash for gyrated paper. Credit from every source was extended. Suddenly and dramatically the trend changed, and the bubble burst economically, socially and politically. The market flopped faster than it had gyrated, and real estate flopped with equal rapidity. Sales stopped; unemployment increased rapidly, and soon the banks were closed. Mr. Hoover now faced a new blitze — the blitze of sudden depression, of sudden political, economic and social uneasiness. The headache was in nearly every home. At this time the great majority of the American people had confidence in Mr. Hoover. He had been elevated to the presidency as a superman, a self-made man wealthy through the efforts of rugged individualism and free opportunity. He was a man of long experience in world affairs, and as Secretary of Commerce had been on the inside of our own problems and world problems.

The people looked for a prescription for their headaches. Apparently Mr. Hoover did not see the incipient symptoms of this economic disease. He only recognized it when definite evidence of shock was present, and he did not quite fully recognize it then. The patient had to reach the state of complete shock and collapse before he actually recognized it. Mr. Hoover, caught in a dire emergency, had no prescription for this shock. He thought it could be treated by palliative measures, and by telling the family not to worry the patient would be better tomorrow. He appealed to management not to lay off employees, but management was losing its blood,

that is, its sales. Management was not prepared for this epidemic of shock. It had no blood banks for employees. Unemployment produces more unemployment, just as hemorrhage produces greater shock. The capitalistic system, consisting of management, began taking trains to Washington for blood. Some of them received it. They might be called the private room patients, such as big business men and big banks, but the small banks, the small business men, and the farmers, actually the ward patients, were, to a large degree, left untreated. They were not transfused. Their transfusion was largely in the words that "prosperity is just around the corner." The trend continued and there was little or no improvement. Perhaps the patients were impatient and did not wait long enough for the therapeutics to act. The people demanded a new doctor. They did not care much who he was, or where he was from, but just a new doctor to cure the political, social and economic diseases.

It is generally recognized that in the 1932 election the people voted against Mr. Hoover more than for Mr. Roosevelt. In the '36 and '40 campaigns the people voted for Mr. Roosevelt. Why? In 1932 they had lost confidence in Mr. Hoover, and the Republican party and management. In 1936 and up to 1940 they had gained confidence in the new doctor. They were recovering from their 1929 sickness. They had been told that the former doctor had not only been unable to diagnosis their trouble, but unable to treat it. The slogan of "the forgotten man" emerged and found sympathetic ears among the millions. New transfusions were instituted in addition to carrying on the transfusions initiated by the preceding administration. Alphabetical transfusions were set up with great rapidity, and they were called the New Deal. These new transfusions were for the ward patients, farmers, labor and small business men. The theme of this definite new trend was centralization of government, socialization of the masses, division of wealth, destruction of rugged individualism, and an entirely regimented America. The public took large doses of this new prescription. They thought it constituted a free clinic. Soon the government was on a great spending spree itself. The public debt apparently meant very little. Labor and the farmer were coddled sit-down strikes developed, management was put on a block, and a new blitz was on. To some extent class and racial hatred were engendered. The Supreme Court had little place. Congress took orders like a child who was not particularly obedient but scared to death.

Now war had developed in the old world. China and Japan had been at war for sometime, sympathies were with the Chinese, but our scrap was going to Japan. Finally our sympathies were with the Allies, and there was a definite trend to assist them. A controversy arose between so-called interventionists and the isolationists. A great many people wanted to be interventionists as far as money and material were concerned, but isolationists as far as soldiers going to fight on foreign soil.

In the campaign of 1940 Mr. Roosevelt repeatedly promised the American fathers and mothers that their sons would not be sent to foreign soils. The rest of the course is history, and space does not allow time for complete discussion. Suffice to say that our administration did keep a chip on its shoulder, and we finally found ourselves in war. After Pearl Harbor was attacked, there was suddenly just one America — an all out America to win the war. By this time we had a huge national debt and little to show for it. The war of necessity was going to add billions to the national debt and a new source of revenue had to be found. The new source of revenue had to come from the low income group. War of necessity changed both the coddling of labor and of farmers. The Pearl Harbor incident, with our Admirals and Generals asleep at the switch, did not help the situation. The building up of many bureaus through which important matters could not be quickly and satisfactorily handled, added to the confusion. Finally the plea to purge the isolationists in the country, while fighting for democracy, found a new note and then a new trend was born. The confusion continues to grow, the draft regulation changed rapidly, labor and agriculture were in a conflict, and an election took place.

Now just at this time many people had again made up their minds that democracy had failed. We had been pretty much socialized. We had a huge national debt. We had 2,600,000 people on the federal payroll. Things looked some-

what hopeless, and a new election was the new blitz. The people wanted to change doctors again. They began to care more about their own freedom, liberty and rights than they did about assuming the responsibility for the entire world. We found many people asking themselves "what are we fighting for?" The usual answer was "our liberty" — the question arises "what is our liberty?"

The following is a Quotation from John Stuart Mills' "Essay on Liberty" written in about 1860.

"Little, however, as people are accustomed to a doctrine like that of Von Humboldt, and surprising as it may be to them to find so high a value attached to individuality, the question, one must nevertheless think, can only be one of degree. No one's idea of excellence in conduct is that people should do absolutely nothing but copy one another. No one would assert that people ought not to put into their mode of life, and into the conduct of their concerns, any impress whatever of their own judgment, or of their own individual character. On the other hand, it would be absurd to pretend that people ought to live as if nothing whatever had been known in the world before they came into it; as if experience had as yet done nothing towards showing that one mode of existence, or of conduct, is preferable to another. Nobody denies that people should be so taught and trained in youth, as to know and benefit by the ascertained results of human experience. But it is the privilege and proper condition of a human being, arrived at the maturity of his faculties, to use and interpret experience in his own way. It is for him to find out what part of recorded experience is properly applicable to his own circumstances and character. The traditions and customs of other people are, to a certain extent, evidence of what their experience has taught them; presumptive evidence, and as such, have a claim to this deference: but, in the first place, their experience may be too narrow; or they may not have interpreted it rightly. Secondly, their interpretation of experience may be correct but unsuitable to him. Customs are made for customary circumstances, and customary characters; and his circumstances or his character may be uncustomary. Thirdly, though the customs be both good as customs, and suitable to him, yet to conform to custom, merely as custom, does not educate or develop in him any of the qualities which are the distinctive endowment of a human being. The human faculties of perception, judgment, discriminative feeling, mental activity, and even moral preference, are exercised only in making a choice. He who does anything because it is the custom, makes no choice. He gains no practice either in discerning or in desiring what is best. The mental and moral, like the muscular powers, are improved only by being used. The faculties are called into no exercise by doing a thing merely because others do it, no more than by believing a thing only because others believe it. If the grounds of an opinion are not conclusive to the person's own reason, his reason cannot be strengthened, but is likely to be weakened by his adopting it; and if the inducement to an act are not such as are consentaneous to his own feelings and character (where affection, or the rights of others are not concerned), it is so much done towards rendering his feelings and character inert and torpid, instead of active and energetic.

He who lets the world, or his own portion of it, choose his plan of life for him, has no need of any other faculty than the ape-like one of imitation. He who chooses his plan for himself, employs all his faculties. He must use observation to see, reasoning and judgment to foresee, activity to gather materials for decision, discrimination to decide, and when has decided, firmness and self-control to hold to his deliberate decision. And these qualities he requires and exercises exactly in proportion as the part of his conduct which he determines according to his own judgment and feelings is a large one. It is possible that he might be guided in some good path, and kept out of harm's way, without any of these things. But what will be his comparative worth as a human being? It really is of importance not only what men do, but also what manner of men they are that do it. Among the works of man, which human life is rightly employed in perfecting and beautifying, the first in importance surely is man himself. Supposing it were possible to get houses built, corn grown, battles fought, causes tried, and even churches erected and prayers said, by machinery — by automatons in human form — it would be a considerable loss to exchange for these auto-

matons even the men and women who at present inhabit the more civilized parts of the world, and who assuredly are but starved specimens of what nature can and will produce. Human nature is not a machine to be built after a model, and set to do exactly the work prescribed for it, but a tree, which requires to grow and develop itself on all sides, according to the tendency of the inward forces which make it a living thing.

It will probably be conceded that it is desirable people should exercise their understandings, and that an intelligent following of custom, or even occasionally an intelligent deviation from custom, is better than a blind and simply mechanical adhesion to it. To a certain extent it is admitted, that our understanding should be our own: but there is not the same willingness to admit that our desires and impulses should be our own likewise; or that to possess impulses of our own and of any strength, is anything but a peril and a snare. Yet desires and impulses are as much a part of a perfect human being, as beliefs and restraints: and strong impulses are only perilous when not properly balanced; when one set of aims and inclinations is developed into strength, while others, which ought to coexist with them, remain weak and inactive. It is not because men's desires are strong that they act ill; it is because their consciences are weak. There is no natural connection between strong impulses and a weak conscience. The natural connection is the other way. To say that one person's desires and feelings are stronger and more various than those of another, is merely to say that he has more of the raw material of human nature, and is therefore capable, perhaps of more evil, but certainly of more good. Strong impulses are but another name for energy. Energy may be turned to bad uses; but more good may always be made of an energetic nature, than of an indolent and impassive one. Those who have most natural feeling, are always those whose cultivated feelings may be made the strongest. The same strong susceptibilities which make the personal impulses vivid and powerful, are also the source from whence are generated the most passionate love of virtue, and the sternest self-control. It is through the cultivation of these, that society both does its duty and protects its interests; not by rejecting the stuff of which heroes are made, because it knows not how to make them. A person whose desires and impulses are his own — are the expression of his own nature, as it has been developed and modified by his own culture — is said to have a character. One whose desires and impulses are not his own, has no character, no more than a steam-engine has a character. If, in addition to being his own, his impulses are strong, and are under the government of a strong will, he has an energetic character. Whoever thinks that individuality of desires and impulses should not be encouraged to unfold itself, must maintain that society has no need of strong natures — is not the better for containing many persons who have much character — and that a high general average of energy is not desirable.

In some early states of society, these forces might be, and were, too much ahead of the power which society then possessed of disciplining and controlling them. There has been a time when the element of spontaneity and individuality was in excess, and the social principle had a hard struggle with it. The difficulty then was, to induce men of strong bodies or minds to pay obedience to any rules which required them to control their impulses. To overcome this difficulty, law and discipline, like the Popes struggling against the Emperors, asserted a power over the whole man, claiming to control all his life in order to control his character — which society had not found any other sufficient means of binding. But society has now fairly got the better of individuality; and the danger which threatens human is not the excess, but the deficiency, of personal impulses and preferences.

Persons of genius, it is true, are, and are always likely to be, a small minority; but in order to have them, it is necessary to preserve the soil in which they grow. Genius can only breathe freely in an atmosphere of freedom."

During these recent trends there have been many who favored some form of socialized medicine. So strong was the trend for socialized medicine that many thought it was inevitable, and some reached the conclusion that any attempt to change this trend was a waste of time and effort. It has also been thought by some, that men in the medical profession were fearful of making opposition because it in some way might effect them if socialized medicine did come to pass. Fortunately American medicine had

many leaders who did not subscribe to this idea and kept putting forth vigorous efforts to combat socialized medicine. The National Physicians Committee was organized to carry on a campaign of public education along this line. In the last Congressional election the National Physicians Committee through the cooperation of individual physicians, committees of physicians, and other professional men, contacted in person or by letter, with explanatory literature, more than eight hundred candidates and three hundred and ninety congressional candidates. It is now estimated that more than three hundred congressional candidates elected on November 3, 1942, publicly and unqualifiedly pledged themselves, through "STATEMENTS OF OPINION," to preserve the independence of the medical profession and our system of distributing medical care. Perhaps the election is evidence of a definite trend in a new direction at the present time. Our present immediate job is to win the war, and many believe that as a result of the election our war efforts will be improved.

R. K. Packard, M.D.
Chairman,
Committee on Medical Economics.

MEDICAL JOURNEY INTO CHINA

The next stage in the journey was made, owing to the difficulty of obtaining petrol increasing the further you go into inland China, in a charcoal burning truck. The fuel used is locally made charcoal broken up small. A small furnace below in front of the driver's cab burns this, and generates an inflammable gas which is passed through an elaborate series of filters situated under the chassis of the truck, and is then mixed with air and fed into the engine instead of petrol vapour. The cost of this fuel is negligible compared with petrol, so the method has possibilities. We soon discovered that driving one of these trucks was not all easy going. There are so many controls, and starting the engine is so complicated, that the driver needs a trained man to assist him. Then the top speed attainable on this particular model (about the best yet produced) is only 20 m. p. h. Then there are six gears, and on anything like a steep hill bottom gear is absolutely necessary, but alas, changing down into bottom without stopping and much coaxing is almost impossible. Another thing that adds interest to the run is that charcoal is bought in large sticks, and the furnace is very fussy about its food. One fragment exceeding a certain small size is quite likely to choke its fueling mechanism, and produce the most disastrous consequences. So all charcoal has to be broken up and sorted by hand. Twice a day driver and passengers fall to with hammers and smash the sticks of charcoal up into little pieces. This is generally done on the ground in the main street of a village, and provides a high form of entertainment for the local inhabitants, who make a tight ring of spectators about 12 deep all around us. One night we were going on late to make up for some lost time, and about 10 P. M., just as we thought we were reaching our destination, we learned to our dismay that the charcoal was running out. It looked as though we should either have to stop where we were all night — we were at the top of a mountain pass — or else break up charcoal and reload. A Chinese passenger was very nervous about bandits, and said that stopping there would be most unwise; so we got out, and in spite of a very unpleasant drizzle made the best of a bad job and reloaded our furnace. This wasn't much fun for anybody, and we were all heartily glad when we did get to bed that night. —*The Lancet, June* 27, 1942.

Italia Germania Vittoria is the name of the twenty-second child recently born to an Italian woman aged 46, who thus became the woman with the most children in Italy, according to the Berlin correspondent of the *Svenska Dagbladet* of August 1. According to the *Nieuwe Rotterdamsche Courant* of May 18, at the "Deutsche Haus" at Rotterdam, 44 mothers of large families were present at the celebration of the German mothers' day, organized by the South Holland kring of the NSDAP. The meeting was attended by representatives of the state, army and party. Oberdienstleiter Schmidt presented military crosses to the mothers.

J.A.M.A.

★ **BUY WAR BONDS** ★

Medicine's Role in the War Effort

MEDICAL EDUCATION AND THE WAR

The following statement from the directing board of the Procurement and Assignment Service, Washington, D. C., has just been sent to the deans of medical schools.

MEDICAL SCHOOLS

Recent information indicates that a relatively large percentage of medical students have failed to join the reserve services of the Army or the Navy. It is urged that every student who has not yet done so should apply immediately for a commission in the Army or the Navy. This will enable medical students to continue their training through one year of internship before they are subject to Selective Service.

INTERNES

Army. — Interns may not enlist in the Medical Administrative Corps Reserve, since this group was organized solely for the purpose of enabling the medical students to complete their training. If a student is not a member of the Medical Administrative Corps, he is subject to the jurisdiction of the Selective Service System and may be inducted before he can complete the one year of internship which is required for commission as first lieutenant in the Medical Corps of the Army of the United States. Interns, whether or not they have been in the Medical Administrative Corps Reserve during their attendance at medical school, cannot apply for a commission in the Army Medical Corps until sixty days before the completion of their internships.

Navy. — The Navy will commission interns as lieutenants, junior grade, if they meet the requirements, and it will allow them to complete their internships. We recommend, therefore, that students who contemplate service in the Navy should apply for commissions as ensigns HV (P) in the Navy while they are in medical school.

FACULTIES

It is recommended that deans request faculty members who plan to apply for a commission to discuss the matter with school authorities before making formal application. A physician who is deemed essential on the faculty of a medical school should not apply for a commission until he has been cleared by the school and by the Procurement and Assignment Service and until arrangements have been made for his replacement.

No physician under 45 years of age, who is physically fit for military service, should be declared essential to a medical school faculty unless he devotes at least 25 per cent of his time throughout the entire year to medical school teaching, clinical as well as formal. Any exception to this policy must be justified by unusual circumstances.

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ALIEN PHYSICIANS

The following statement by the directing board of the Procurement and Assignment Service has just been sent to state chairmen for physicians:

The Army and the Navy are not in a position to accept enemy alien physicians as commissioned officers because of the citizenship law. Also many of these physicians do not meet other re-

quirements such as license to practice, internship or other professional qualifications. It therefore seems inadvisable to recommend that these aliens go into the Army as privates with the expectation of receiving citizenship at the end of three months, for many may not receive it for some reason, and they may not be acceptable to the Medical Corps even though they are given citizenship. Since there are many places in which these men can be of service in civilian life, it is recommended that efforts be made to place those who are not acceptable for service with the Army or the Navy as temporary employees in hospital positions, in critical areas where more physicians are needed, in special positions in medical schools, and in public health agencies and so on. In such positions they may be rated as essential and may thus be used in their professional capacity. Until definite rulings are made concerning the admission of this group into the military services, these general policies should be followed.

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SHORTEN COURSE FOR ARMY DIETITIANS

The War Department announced in November that more than two hundred dietitians will be trained each year for service at army hospitals at home and abroad. The course of training will comprise a six month pretraining course at civilian hospitals and a six month course at army hospitals. The first group of dietitians was expected to proceed to army hospitals on December 1.

★ ★

CIVILIAN DEFENSE APPOINTMENT

Dr. Mark V. Ziegler, Chicago, recently resigned as director of district number 3 of the U. S. Public Health Service to become regional medical director of the Office of Civilian Defense in Baltimore.

★ ★

DR. IVY TO DIRECT NAVY RESEARCH INSTITUTE

The new Naval Medical Research Institute at Bethesda, Md., was placed in commission on October 27. Among those attending the ceremonies were Rear Adm. Ross T. McIntire, surgeon general of the navy, and Rear Adm. Harold W. Smith, chief of the Division of Research. The institute will be concerned chiefly with the physical and mental conditions of aviators, submarine crewmen and marines. The scientific director of the new medical unit is Dr. A. C. Ivy, professor of physiology, Northwestern University Medical School, Chicago, who is now on leave of absence from the university; the officer in command is Capt. William L. Mann. The new institute is a component part of the Naval Center at Bethesda, which includes also the Naval Medical School, the hospital and the dental school.

★ ★

CHICAGO BEACH HOTEL BECOMES HOSPITAL FOR AIR FORCE

The Chicago Beach Hotel, on Hyde Park Boulevard, Chicago, has been taken over by the Army and is being remodeled for use as a hospital for the air forces technical training commands. The hospital will care for students in the new army air forces radio school, with headquarters in the former Stevens Hotel on Michigan Avenue, as well as those in other air forces schools in this area. The Chicago Beach Hotel was acquired through court order in the same manner in which the Stevens and Congress hotels, the Coliseum and other properties were taken over for the schools in Chicago. Col. Joseph J. Mack, executive officer of the hospital, is reported to have said that all rooms in the former hotel will become rooms for patients containing two or three hospital beds, except those on the ground, mezzanine and third floors. The ground floor will become a receiving room for patients, the trunk room a medical supply room, the medical detachment personnel will have their mess hall in the former dining room and cocktail lounge at the south side of the hotel, and the large lounge off the main lobby will become a mess hall for patients.

★ ★

COURSES IN NEUROLOGIC SURGERY FOR ARMY DOCTORS

Twenty-five U. S. Army medical officers from various parts of the United States began a course of training in neurology and neurologic surgery at the University of Illinois College of Medicine, Chicago, September 28. Similar groups of army officers will be trained during the next few months. The course includes laboratory, clinical and lecture work at the

Neuro-psychiatric Institute at the university and also clinical work at Cook County Hospital. The University of Illinois School of Medicine, Chicago, and Columbia University College of Physicians and Surgeons, New York, were the only schools chosen, according to the Chicago *Daily News,* for the special training of army officers in neurologic surgery.

SPECIAL NEWS

(THIS NEWS WAS ASSEMBLED ESPECIALLY FOR USE IN THE J.A.M.A.)

Health Under Hitler.—According to the *Svenska Dagbladet,* Stockholm, of July 6, thousands of wounded Germans are being transported to Norway and the Norwegians turned out of hospitals to make room for them. Practically every hospital in the interior is requisitioned for the Germans, and the Norwegian patients are sent to school buildings which have been prepared for them. It was estimated that the transfer of patients would take until the end of July, during which period the hospitals will hardly be able to function. The press announces that civilian sick cannot be accepted for hospital treatment before the end of July, since the German defense forces have requisitioned the hospitals. According to the *Rjukan Dagblad* of July 1, after the German wehrmacht's requisitioning of Tolmark County Hospital it was decided that the patients must move to Soere Agricultural School, Ulofoss.

The *Neues Wiener Tagblatt* of July 4 describes the journey of a Danube steamer from Vienna to Durnstein with a party of wounded soldiers. The boat, which had been hired by the Wehrmacht's kommandantur Wien, Verwundetenbetreuung for July and August, will make the trip three times a week, carrying chiefly seriously wounded men. After two hours at Durnstein the boat returns to Vienna. The organization for the care of the wounded, in which Lieutenant General Stumpfl takes particular interest, deals with 100,000 wounded soldiers a month. The first lot of 500 soldiers was accompanied by doctors, nurses, a band, a quartet and singers. There were soldiers from all fronts, "from Lapland to Africa."

Otto Mattson, an expert of the Lund Anatomic Institute, stated in an interview, according to the *Social Demokraten* of August 6, that certain scientific instruments, such as binocular microscopes, barometers, thermometers and double polished glass, are unobtainable in Germany. High class cameras are difficult to obtain. It is not easy to obtain ordinary glass, which, however, is still being manufactured.

According to *Novo Vreme,* Belgrade, of June 18, owing to the shortage of pharmaceutic products and to prevent speculation, the sales of these articles are controlled. Castor oil, iodine, petrolatum and quinine are obtainable in future only on a doctor's prescription.

Children's stockings for months have been unobtainable in Finland, according to *Helsingin Sanomat* of August 4 and shoes are seldom seen. It is said to be impossible to find even the most modest clothes for children, although adults can still buy clothes.

According to the *National Zeitung,* Berne, July 16, reports are that German soldiers fighting in Russia are now being smeared with a preparation to protect them against lice. The preventive is the outcome of experiments made by Hitler's doctor, Professor Morell, who found that lice placed on horses fell off dead. He discovered that the reason was horse perspiration. The anti-lice mixture, which is also said to possess frost protective qualities, has reduced the number of cases of typhus among the German troops, the paper adds.

According to the *Deutsche Wissenschaft, Erziehung und Volksbildung* of June 20, the minister of the interior has advised all volksgenossen who for professional or other reasons pay a visit to occupied countries, the government general or foreign countries, to have themselves vaccinated against typhus and paratyphus. Those who are going to visit any of the occupied eastern areas or the government general are advised also to be vaccinated against spotted typhus. The vaccine is obtainable from the Robert Koch Institute and from the Behring factories in Marburg a. d. Lahn.

According to the Brussels radio of August 1, the Ministry of Economic Affairs warned against the danger of gas poisoning, since the quality of gas for lighting has deteriorated and contains a higher amount of "coal oxide." It is more necessary than ever, the announcer warned, to be sure that no gas escapes anywhere.

J.A.M.A.

Original Articles

THE PHYSICIAN AND THE PROBLEM OF THE ALCOHOLIC DRIVER

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DETROIT

My topic needs no introduction to the physician. As a citizen he is confronted with constant demands from traffic authorities for him to do his part in the elimination of accidents due to the alcoholic driver. As a member of a highly specialized profession he is expected to take the scientific material on the subject and translate it in such a way that it can be used by laymen. As an individual whose life is dedicated to the practice of prevention and cure of disease and injury, he has a specific responsibility in terms of treatment of those who are injured in automobile accidents which result from someone's ingestion of alcohol, and, in a more indirect sense, he has the responsibility of the elimination of those individuals who are so effected by alcohol that they are potentially dangerous when driving cars.

To the physician who has not given direct attention to this problem of dealing with the drunk driver or the drinking driver the solution seems simple. He thinks very much as the layman does but brings to bear upon his thinking his special knowledge of the general effects of alcohol upon the human system. When he engages in this type of thinking he may very well carry out his responsibility but, on the other hand, he may miss opportunities to show his professional ingenuity and to apply new and special applications of his scientific knowledge.

The Problem — The problem of the alcoholic driver can be divided into three main parts: The first is the determination of what alcohol does to the system of the driver, particularly to his nervous system, which would result in his being more prone to have accidents.

The doctor's second responsibility lies in the application of such knowledge as there might be about the action of alcohol on the patient to determine, first of all, whether the patient has been drinking; second, whether the alcohol which has been ingested has effected his ability to operate a motor car; and third, to make a prediction as to the likelihood of his continuing to drink at times and in a manner which would effect his driving.

Last, there is an element of particular interest to the physician in his responsibility to courts and to law enforcement agencies. Here he has a duty and obligation to serve as an expert witness in cases of alcoholic drivers.

Concepts of the Alcohol-Driving Problem — In answer to the question which was brought up by the first topic, the medical man must admit certain premises. The first is that alcohol is a drug which effects a person's ability to go through certain mechanical manipulations. Researchers on the subject, and there have been a myriad of them, have not entirely agreed upon the effects of alcohol. In some types of performance the individual is able to carry on a routine activity requiring either mental or phys-

From the Psychopathic Clinic of the Recorder's Court, Series T-33. Read at the 102nd Annual Meeting of the Illinois State Medical Society, Springfield, May 21, 1943.

ical agility in a faster-than-usual manner. A test score may be effected favorably or unfavorably, but as the dose increases markedly motor-coordination apparently decreases.

Just where the point is reached where motor-coordination advances to a danger point has not been determined as yet. Herman A. Heise[5] of Milwaukee has been a leading investigator in this field. In an analysis of 119 automobile accidents, which he made in 1934, he was able to show that there was a measurable loss of efficiency and judgment in the alcoholic even when very small amounts of alcohol were accumulated in the blood or urine.

It was Heise's opinion that if one judges a person to be sober as long as he can "still walk and talk" one can make no valuable determinations from a statistical standpoint. In Heise's investigations he found, too, that the drinking driver was involved in many of the accidents and he recommended that a chemical test for alcohol be used in aiding in the conviction of drivers who had been drinking. Alvhh R. Lauer[6] concluded in 1939 that a noticeable effect on behavior occurs somewhere between thirty-five and sixty-five milligrams of alcohol per hundred cubic centimeters of blood and that the greatest loss of efficiency is found in the abilities related to judgment, wherein a deficiency of about twenty-five percent was noted. Performance showed twenty-three percent loss, while sensory capacity showed only a fourteen percent loss. It was his belief that while the effects of alcohol are variable with individuals, even small amounts are potentially dangerous and the direct effects relating to driving seem to be (1) inconsistency in performance; (2) decreased tolerance to glare; (3) an increased reaction time; (4) poor observation; and (5) a tendency to speed up and be less cautious.

Clinical Observation of Alcoholic Drivers — Alcoholic cases are frequently referred to the Psychopathic Clinic of the Recorder's Court. The Clinic's intake, however, is highly selected. Inasmuch as it only sees between five and six hundred cases a year, and more cases than that are occasionally seen on a Monday morning in the Traffic Court, it takes a great deal of obvious pathology on the part of the offender to render him noticeable to the Judge.

The Judge will send to the Clinic cases who have an extremely bad accident, who seem to be insane or feeble minded because they respond poorly to his questions, who have a bizarre appearance in Court, or because the officer says that their conduct while driving was bizarre. The reason for their bizarre conduct may be alcoholism, and this may justify the Judge in referring the case to the Clinic even though there is no suspicion of insanity. The case load then is highly selected. It is heavily weighted for the insane, feebleminded, the pathological both in body and mind, and for the alcoholic.

About a year ago I made a special study of the alcoholic traffic offender[7] and I observed that it took from the middle of December, 1939, until early in August, 1940, for one hundred alcoholic cases to pass through the Traffic Division of the Clinic. During that same period of time 248 cases in all were seen so that about two-fifths of the clinic cases were alcoholics of one or another kind.

This does not mean that two-fifths of all of the cases who come before the Court are alcoholic — that would be a fallacy for the actual percentage is extremely low. Nevertheless, the dramatic quality of offenses committed by alcoholic drivers and the frequent use of alcohol by drivers who get into rather dramatic accidents attracts attention to cases of this sort so that they are more frequently brought to Court, more frequently reported in the newspapers, and more public reaction is noted against them.

The gross results of this study of one hundred cases indicated certain points which should be of interest to the physician in considering the whole problem. First of all, there are really three distinct types of alcoholic drivers and a knowledge of these three types is necessary before the physician can bring his scientific knowledge to bear upon the problem.

The Mild Drinker — The first type is the mild drinker, the individual who takes but little alcohol. We have a large amount of these so-called one-drink alcoholic traffic offenders who were arrested after they had consumed only a small amount of alcohol but who have had serious accidents. It is almost impossible to

show that these people were involved in an accident because of their consumption of alcohol. The amount that they drink is less than the standard that has been recommended by either the American Medical Association[5] or by the National Safety Council[6] as minimum for the classification of the driver as alcoholic, but the frequent admission found in histories which have been taken on drivers who have been in serious accidents reveals a large number of these drivers to have had a drink or two. Holcomb[4] in his study made in Evanston in 1938 showed that more people who were involved in accidents were drinking than the general run of drivers on the highway in the area studied. This does not completely answer the question which is continually being asked, whether the two-drink driver is an accident-prone driver because of his two drinks. I think that a case can be cited which gives one perhaps a little better idea of the significance of the so-called two-beer or two-drink driver.

A young man was referred to the Clinic because he had had a series of five accidents. He drove continually and claimed that he put between thirty and forty thousand miles on a car during a year. He was never arrested for drunk driving but on each occasion when he had an accident he had been returning from work after a fatiguing day, had not yet eaten his supper, and had stopped at a bar to refresh himself. In his particular case, since he was free from accidents at other times, one can easily see that the ingestion of even a small amount of alcohol coupled with his empty stomach and with his already susceptible nervous system due to his fatigue resulted in his being a menace on the highway.

I do not think that anybody can give a general rule about one and two-drink drivers. Certainly there must be many thousands on the street whom we do not detect, who are never brought before the Court, and who should not be labeled as alcoholic traffic offenders merely because they happened to have had a drink or two before a particular accident. But a study of the ancillary data, about the driver's nutrition, fatigue, state of mind, attitude toward driving, arrest record at other times, will give the doctor a chance to evaluate the light drinker, and, from my own standpoint, I have come to the conclusion that there is always an element of risk if one drives with even a small amount of alcohol in him.

Most individuals whom I know are willing to drink before they drive. They take a cocktail or two, they may perhaps have a highball before dinner, rarely they have wines and liquor during dinner, but they often sit around during the evening playing cards or entertaining themselves in other ways and taking a mixed drink of some sort.

These people don't seem to have any fear that they will get into difficulty if they drink as much as they do, and from my own experience, I know of no one, out of hundreds of people who have this type of recreation who has gotten into an accident. Nevertheless, each one of these drinkers is potentially dangerous. There may be a critical moment when his slowed reaction time might aid him in the siuation. There might be slight dimunition of his visual acuity; others of the psychological or psycho-physical traits may be impaired, even though the degree of impairment is so slight as to be not measureable.

The Acute Alcoholic — The second group of alcoholics which is interesting to the physician are those who have definitely ingested enough alcohol to get them in trouble. These people are most easily detected through tests of blood, urine, and the tests devised by Heise[3], Harger, Lamb and Hulpieu[2] and Greenberg and Keator.[1] I will spare you the mechanical and chemical details of these various types of equipment but I will say that they have all shown a reasonable degree of reliability, in fact so much reliability that their use in Court has been advocated by no less an organization than the National Safety Council.

The Chronic Alcoholic — A third type of problem driver who is dangerous because he drinks is the chronic alcoholic. Chronic alcoholism is perhaps not too easy to define verbally but it is a more distinct clinical entity than either of the two types that I have discussed previously.

The chronic alcoholic may be an individual

who drinks a considerable amount of liquor daily or he may be a mild imbiber for a few days during the week and an extremely heavy drinker on week-ends. Not infrequently patients who show extreme symptoms of chronic alcoholism become psychotic because of their drinking. They may develop an alcoholic hallucinosis, delirium tremens, or Korsakoff's syndrome. Men who drink enough to become psychotic do not, in my experience, very frequently become problem drivers. The problem driver in the chronic alcoholic group is usually an individual whose nervous system has been only mildly impaired, so little that a lay observer, such as the arresting officer or the traffic judge, does not note the symptoms of alcohol saturation but, on the other hand, enough so that his judgment is impaired and his mental condition is not as good as it should be for driving a car.

There is no way of carrying out a controlled research program on these people. We cannot give them tests of reaction time, visual acuity, perimetric status before they become chronic alcoholics and then retest them later, as we do not know which ones are going to become chronic alcoholics. They are almost never brought to the attention of a physician until the symptoms become at least threatening.

It is certainly true in the Clinic's experience that the reaction time of the confirmed drinker is slower than that of the population as a whole, and we find more visual errors. But chronic alcoholics are usually a decade or two older than the general run of traffic offenders and some deterioration in the psychophysical findings is to be expected, regardless of the alcoholism.

I can make the very definite statement, however, which is based on my experience, that chronic alcoholics as individuals possess traits and weaknesses which do make them very definitely more dangerous as drivers. It is unfortunate that the present research trend is toward statistics, for individual cases often come before me who have proved to be dangerous to a convincing degree, yet no comparable figures are available.

The attitude of mind that the chronic alcoholic has toward his habit and his inability to control himself and stop drinking, even though he knows that he deserves social disapproval, indicates a lack of self-control which we find to be transmitted into the sphere of driving.

The chronic alcoholic rationalizes. He explains that he has now become so tolerant to alcohol that it has no effect upon him. Even the chronic alcoholic who has not gotten in trouble with the law demonstrates poor judgment. He is not willing to concede that his drinking is harmful to himself or to others even though he may be wrecking his home or failing to carry out community obligations.

Many chronic alcoholics are able to work regularly even at fairly delicate operations, and they will use this argument to indicate how well balanced they are even though they may take more alcohol than the general run of workmen. They are, as a general rule, inadequate and compensate for the inadequacy by drinking and thus become very egocentric. Quite often they become more and more inadequate as they run from reality into the foggy atmosphere of alcohol.

The Physician's Obligations — The physician has certain obligations toward the drinking driver. It is probably not within the sphere of the family doctor's activities to advise the casual drinker not to drink and drive unless he has shown bad judgment to such an extent that he is considered a menace in the community or has been in trouble with the law. As socially adjusted members of the profession, we do not ourselves come entirely before society with clean hands. Many physicians drink and drive. Many of our colleagues have a tendency to flout the law with regard to speed and other regulations and use the argument that our duties cause us to ignore these regulations because we have responsibilities in the matter of saving lives. There are many physicians, who, because of this point of view, will not obey the law even when there is no emergency.

We cannot do more than express theoretical disapproval of any driving after even small amounts of alcoholic ingestion. We do, however, have responsibilities toward the two other groups of drinking drivers.

First, there is the individual who is arrested because he apparently took more alcohol than was good for him at the time and then got into an accident or violated a traffic law. In

such a case it is necessary to show that the man has been drinking more than he should. Quantitative tests, as I have indicated above, are available for determining the concentration of alcohol in the body. These tests are used by many State police departments and they have been supported by decisions of State Attorney Generals in several states including Illinois. In some states it has been ruled that drivers who are suspected of being drunk at the time of arrest may be forced to submit to quantitative tests of their body fluids.[9]

There are two definite weaknesses which are apparent in the use of quantitative tests of alcohol in the case of drinking or drunken drivers. The first one is that nowhere does there seem to be emphasis on the fact that the accuracy of these tests is dependent upon the skill of those who administer them. Certainly they have proved their worth in the hands of the experts who have devised them, but the intention seems to be on the part of those who have constructed such tests that they should be so simple that they could be operated by any police officer. If the Courts are going to depend upon chemical tests alone, a second fallacy comes into play, and that arises from the situation that the alcoholic concentration in the body does not necessarily agree with the danger point of the behavior of the individual. Chronic alcoholics with high alcoholic concentrations have proved to be mechanically competent to drive a car in some cases.

In the case of the first group which was discussed above, those who have had only a couple of drinks of beer, the alcoholic concentration is not high enough to mean anything on these tests and yet the behavior is definitely antisocial and, in some instances, definitely beyond the ability of the individual to control it.

Because of the availability of such tests as these, the physician must not allow himself to come into Court to testify as to the alcoholism or non-alcoholism of a particular individual at the time of his arrest without having availed himself of one of the accepted quantitative tests. Evidence with regard merely to the patient's behavior is not sufficient in my mind either to prove or disprove the influence of alcohol, and I have seen physicians who have based their opinion upon the clinical examination and found themselves in an embarrassing position because they had not covered the whole ground.

A physician who is placed in such a situation as this finds himself in a position very much like his dilemma in certifying the presence or absence of paresis without serological tests. Certainly a clear-cut paresis can be diagnosed without the use of serological tests, but if there is a sufficiently important point at issue to bring the man into Court to determine his sanity and the presence or absence of paresis, a physician would lose face if he were confronted with negative serological evidence before a jury.

The physician is well advised to look at a case which involves drunk driving from a very definite self-interested point of view. Most of the contacts that I have had with private physicians who have come into Court in cases which have involved drunk driving have concerned family physicians who, because they know the individual as a patient, find themselves subpoenaed as witnesses for the defense. This defense may demand that the physician state that the patient's misbehavior in his opinion is not due to the drinking but rather to the ingestion of drugs, to fatigue due to overwork, or to some physical ailment. In the eyes of the clear thinking jurist there is little distinction to be made between the man who drinks and does harm and the man who is so sick that he is unable to control his motor car and avoid accidents. There is as much justification in revoking the license of the epileptic, of the cardiac who has frequent syncopes, or of the patient who dopes himself with sedative drugs because of pain, as there is in revoking the license of the drunk driver. All of these patients are equally dangerous; the etiology and culpability may be different, but the effect on the community is the same. The doctor does not benefit his patients by substituting a defense plea of sickness for one of drunkenness, even though the patient rightly assumes that the community attitude will be more favorable and lenient towards a sick person than towards one who has been drunk.

There is a second responsibility which the physician who knows of the chronic alcoholic is forced to assume. I do not believe that we are yet in such a state of enlightenment that our patients would feel that physicians to whom

they come with confidences should report their condition to the licensing authorities in order to have their licenses revoked. In many instances this is done, however, and justly done. To do it requires that the physician carry out preliminary education so that the patient will understand why this physician has to take the step that he does. Among traffic cases there is an example that I have cited time and time again — the case of a neuro-surgeon who removed a large part of the cerebral hemisphere on one side because of a brain tumor and who told this patient that he must no longer drive. When the patient continued to drive the surgeon informed him that he felt it was his duty as a citizen to request that the patient's license be revoked. The matter was made as clear as possible to the patient before the physician took his step and there was no unfavorable repercussions.

Whether such understanding could ever be brought about in the case of the chronic alccholic, where the physician is attending him either for a concomitant ailment or for the alcoholism, is doubtful. Chronic alcoholics are too defensive and have too little understanding of their own problems. Nevertheless, in many instances, the physician may find that his relationship with these individuals is such that he can either curtail or force discontinuance of the driving.

CONCLUSION

In conclusion, then, let me point out that this is a matter for serious consideration on the part of all medical men.

First, alcoholism itself is a serious problem and even small amounts ingested by individuals who are likely to be driving their cars makes these individuals potential menaces on the highway.

Second, the physician who is asked to testify in the matter of whether an accident occurred while the man was under the influence of liquor should acquaint himself with the literature on the subject, which is vast ([8,9]). He should make an examination of the man at the time that he has his accident. He should if possible make a quantitative determination of the man's blood alcohol and observe his conduct closely, and he should be careful not to be brought into Court *ex post facto* to defend the man on the grounds of physical ailments.

Third, chronic alcoholics in the individual physician's practice place upon him a great deal of responsibility in the matter of putting pressure upon them to discontinue their driving

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STATUS ASTHMATICUS

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The vast increase in number in the different branches of clinical medicine has produced many specialties; the patient no longer feels that one man can have sufficient knowledge and experience to be competent to care for all his ailments —be they physical or mental.

Occasionally, the specialist becomes so enthusiastic in postmortem pathology, that he neglects to study the functional disturbances in patients without organic diseases; on the other hand, for lack of time, the general practitioner is not able to follow the progress made in the various specialties. As a result, the patient not obtaing relief, travels from one doctor to another until he is forced to become a victim of quacks.

I will attempt to describe this syndrome and will enumerate the essential facts in the management of allergic individuals in status asthmaticus. The most useful methods will be presented in detail.

Bronchial asthma is as old as man and is a common occurrence in the human. It has been estimated that approximately one-tenth of the entire population have a major or minor sensitiv-

ity in various forms, and not infrequently, it may become severe to the point of syncope, extreme dyspnea and state of exhaustion. This has been called status asthmaticus, intractable asthma, or asthma crisis. I would prefer to call it accidental pulmonary crisis, resulting from the inadequacy of recognized methods of treatment, and therefore preventable.

Many theories have been advanced as to the etiology and mechanism of bronchial asthma, none of which are completely satisfactory. Let us for a moment discuss the etiological factors responsible for the allergic manifestation. Not all wheezes are allergic, and allergy alone is inadequate to explain all cases of asthma. It is time to encourage serious consideration of the possibility that either in connection with allergy or quite independent of it, there is some change in the physiology or the chemistry of the organism which forms the fundamental basis for the asthma and the other symptoms that make up the asthma syndrome.

In most cases, asthma depends on a hypersensitiveness which could be due to ingestants or inhalants. The clinical history of patients with asthma due to external causes is usually clear. At the right time and the proper place the patient is free; but in the wrong place and at the wrong time of the year, he will develop asthmatic attacks.

The relationship between symptoms and exposure to the specific substance is direct and is usually demonstrated easily by hospitalizing the patient. Skin tests with the offending substance are positive in cases which are due to external causes, but not all asthma can be explained in this way.

Quite often the attacks start with a cold, but in other cases the relationship to colds is not clear. It is this kind of asthma that is apt to increase in severity until at length, the condition may become desperate and the patient is said to be in acute pulmonary crisis. Such patients do not improve in a few days in the hospital as do the types due to external causes, evidently because whatever the cause, there is something which they carry with them into the hospital.

Many of these patients have had asthamtic bronchitis which lasted for years. They usually give histories and evidence of nose and throat difficulties, either in the past or at present. Most of these patients have had polyps removed and polyps present at their examination. About one-fifth of these patients have had operations on the nose and throat and none of them derive any benefit from such operations.

The history shows that the wheeze began insidiously without a preceding illness or change in residence, occupation, environment or season.

Asthma and the Weather — Among the nonspecific causes of bronchial asthma, weather changes must be considered among the most important. A knowledge of the direction of the wind and the approach of bad weather can help us to understand the patient's present symptoms and often predict the degree of health he will enjoy during the following days.

Anyone who will take the trouble to learn these facts will greatly profit from it. It is best to start by taking certain patients for study and recording their good and bad days. It will soon be learned that there are patients, who without their knowledge, exactly follow the barometric pressure.

After a month or so, these patients can be used as indicators, and it will be learned that whenever they have symptoms, almost all the patients of their group will have symptoms. When these indicator patients are well, all other patients in this group will usually be well also.

For a period of three years we checked and recorded the atmospheric pressure and frequently could predict a day in advance, the reactions upon our patients. It was of interest to note that all patients who were subject to weather changes, irrespective as to their location within the affected area, would have asthmatic attacks within several hours of each other. But termination of the attacks did not hold true to form. This offers an explanation for the asthmatic attacks which are not due to other causes.

Heredity — Heredity as a factor has been much debated, Dr. B. Ratner[1] in studying a large group of allergic and normal children was unable to find a greater incidence of allergy in the families of the allergic group. He believes that the development of sensitivity is due to a chance occurrence of certain factors and not a heredity mechanism.

However, I firmly believe that heredity is a very important factor. I fully agree with Dr. Kranies[2] that one of the most important and difficult factors in neurosis is the hereditary one. Many allergists agree that an unstable nervous system could be responsible for asthmatic attacks, urticaria, and various forms of dermatitis.

Statistics reveal that feeble-minded patients spring from a long line of feeble-minded ancestors and can rarely be made into intellectual giants. Many depressive patients are the results of their forefathers and will follow the same course as their forbears.

Neurological and Psychological Factors — Vagatonia or vago-sympathetic dystonia has always been considered a factor in the allergic; in fact, the entire nervous system is internally connected with mechanism of allergic response. Strauss[3] maintains that the nervous system is the seed of essential pathological lesions, contending that the symptoms depend on a spastic contraction of the bronchial muscles which is of excitomotor reflex origin, and that the extent of involvement differs in every case.

In some, it is restricted to the nervous system of air passages, and in others in the gastric or pulmonary portion of the vagus. The source of irritation in some cases may be the brain, and in others may be of humoral origin.

In recent years, due to the interest in physchoneurosis, attempts have been made to ascribe the onset of asthma, urticaria, or other allergic conditions to such psychic factors as: fear, anxiety, anger, and other emotional states. Numerous cases have been reported in which the cause was attributed to psychic-stimuli, psycho-therapy, including removal of the psychic-stimuli by hypnotic suggestion was followed by relief or cessation of allergic attacks.

Clarkson[4] in the analysis of the nervous system of juvenile asthma makes the observation that the following features in varying degrees are common in every case: intensification of emotion disordered by a chemistry habituation reflex (grouped around fear) an escape from reality and a definite psychosis. He also emphasizes that a potential allergic child is born with both a psychic and somatic handicap. Such a child becomes an ego-centric or an overly-receptive adult with a predisposition to react to all types of stimuli.

The mechanism which produced the allergic phenomenon is of great interest. Theoretically, it is assumed that anti-bodies responsible for the allergic reaction become attached to the cells of the body tissues, especially in the so-called shock organs and subsequently, one of the antigens with its anti-bodies produces colloid upset in the cells. This phenomenon may be brought about by inhalants, such as: pollen, dust, etc. or by injections, or by ingestants of food, drugs, or by contact with any material the individual be sensitive to.

The mechanism which produces these various reactions may be said to be analogous to circulatory failure of the capillaries, resulting from physical or traumatic shock. Circulatory disturbances originating in the pulmonary capillaries, resulting from physical or traumatic shock. Circulatory disturbances originating in the pulmonary capillary stream have not *received much deserved attention.* But from all indications, in the experimental field, it may prove of greatest value. It has been shown that capillaries possess tonus contractibility independent of adjacent arteries and veins. Capillaries and endothelium are delicately sensitive and exceedingly susceptible to a variety of materials producing capillary permability, allowing the plasma to escape into the tissue producing edema and frequently serious effusions.

The syndrome presents a characteristic group of features resembling those of allergic shock. Any agent which will produce a wheal when applied locally will reproduce the syndrome of shock if its effects are induced systematically. Histamine, bacterial toxin, peptones and proteins to which an individual is sensitive, will produce a wheal when applied locally.

Ebbecke[5] maintains that wheals are analagous to shock. It has been suggested that hyperactivity of the sympatho-adrenal system, excited by pain, irritation to the tissues or emotional reaction, may result in a maximum arterial constriction. If long sustained, it might reduce the delivery of oxygen sufficiently to cause tissue anoxia, and thereby to initiate the operation of the same vicious cycle.

The symptoms produced in these cases presents a characteristic group of clinical features,

resembling that of capillary shock. The patient is weak, restless. The pulse is rapid, respiration is difficult, the extremities are cold, the body temperature is low. The face is drawn and anxious in expression and moists with cold sweat. He is profoundly depressed. If this condition is prolonged, the eyes become sunken and surrounded by bluish rings producing a Hippocratic Facies. The respiration becomes more rapid and shallow and death may occur.

The laboratory findings in these cases are fairly consistent. There is hemoconcentration with a high hematocrit reading. There is also a high leucocyte count with an increase of eosinophilia, varying from ten to as high as fifty-seven per cent. The sedimentation rate is usually normal unless associated with acute infections. The urine in most instances is decreased, probably due to dehydration. Electro-cardiograms are normal unless there is cardiac involvement, which is quite common in the chronic cases. X-Ray films of the chest reveal the emphysematous type.

Pathology of Pulmonary Crisis — The chief recognized pathology of Status Asthmaticus involves the tissues within the lung itself. It is generally agreed that one who has had frequent or severe attacks exhibits the following changes in bronchial structure:

1. Engorged epithelial cells
2. Thickened basement membrane
3. Hypertrophied muscle bundles
4. Increased size of mucous glands and an increase in the number of lymphoid, connective tissue and eosinophilic cells in the sub-epithelial and extra-muscular layers

The increase in size of the mucous glands is due to an over-activity of the mucous-producing cells, the distention of the gland ducts and areas of round cell infiltration.

These cellular collections are probably evidences of chronic infection. The increased exudation from the mucous glands into the gland ducts and thence into the lumina of the bronchi and the stronger contraction of the hypertrophied muscle bundles, combined with the actual increase in wall thickness, acts simultaneously to increase the stenosis of the tube. The smaller bronchi are occluded completely by this sticky, tenacious mucous that is produced in such large quantities, so that the passage of air is stopped completely.

The differential diagnosis from cardiac asthma is very important. Cardiac asthma is characterized by a feeling of suffocation, intense desire to breathe deeply, prostration and wheezing, bubbly sounds in the chest, plus the expectoration of frothy phlegm.

It is usually a substernal oppression which is very intense. The edematous character of the rales and the tendency of the sputum to be frothy and streaked with blood is marked. There is a real resemblance to bronchial asthma in certain cases, but the cardiac asthma appears to depend upon the acute left ventricular failure with engorgement of the pulmonary circulation, with or without edema and partly on local or central nervous stimulation, whereby the asthmatic type of breathing is produced. It is possible that the acute pulmonary stasis during sleep induces reflexly the asthmatic breathing.

In true bronchial asthma, a careful history and skin tests will disclose definite sensitivity; the elimination of which or immunization against will result in relief. However in the long standing asthmatic, especially in those past middle-life, there are structural changes in the lung resulting in emphysema with increased resistance to the flow of blood through the pulmonary vessels, with an increase in intra-pulmonary blood pressure which results in right heart failure.

The treatment of cardiac asthma is first to reduce the irritability of the vital centers, this is accomplished by the administration of sedatives such as morphine. The second aim is to improve cardiac function, which is accomplished by the usual cardiac measure.

Management — The management of these cases will be described in detail and in order of their importance.

Emergency Treatment

a. Isolation. The patient must be isolated; friends or relatives are not permitted to visit with the patient. The nurses must not visit the patient oftener than general medical care requires.

b. Room. Should be dust and pollen free. Mattresses and pillows should be rubberized. The patient is to be kept in a semi-reclining position

and the room is to be fairly dark. The room temperature is to be controlled between 68 and 70 degrees Fahrenheit, with a humidity of approximately fifty per cent. All articles that are dust containers, such as: rugs, curtains, and stuffed furniture, should be removed. Fans or any other apparatus for controlling circulation of air in the room are not allowed.

c. Epinephrine. Epinephrine should be given in doses not to exceed 0.5 cc of one to one thousand and may be repeated every fifteen minutes for four or five doses. It is to be injected intracutaneously for more rapid absorption and at several points distant to each other. If relief is not obtained within one hour, its use must be discontinued. Many patients treated with this drug for some period of time become adrenalin fast. Epinephrine exhibits certain peculiarities that have not been sufficiently stressed. In large amounts or in small continued doses it will produce a clinical and pathological picture of shock, therefore defeating its own purpose. In many instances, the discontinuance of its use for several days will re-establish its efficiency. To counteract adrenalin reactions, such as: pallor, tremor and tachycardia, place a tourniquet above the seat of injection for several minutes and all symptoms will be abated almost instantly.

d. Adrenalin in oil may be given in 1.0 cc doses intra-muscularly at four hour intervals for a period of twenty-four to forty-eight hours. This may be the method of choice, if the patient can be kept asthma free for this length of time, the vicious cycle will be broken.

e. Helium-oxygen mixtures. In the most severe stages of asthma, about six liters of this mixture of eighty per cent helium and twenty per cent oxygen should be used.

As the spasm is relieved, the rate of flow can be reduced to five, four, or three liters per minute or the oxygen supply can be increased to one, two, or three liters per minute, so that the total amount of gas supplied from the two tanks will total six liters per minute. When the recovery is complete, the helium mixture can be stopped and oxygen alone continued, but must not be used in excess of twenty per cent.

f. Rectal. Ether and Olive Oil. In cases where the above methods have failed, ether and olive oil may be tried with certain precautions. Relief, when secured by anesthesia, is slow and gradual requiring from twenty to thirty minutes; hence ether-olive oil rectal anesthesia should be, in my opinion, a last resort.

Technique: no preliminary cleansing enema is given, for it disturbs the patient whose respiratory difficulties are extreme and in whom rest and the absence of any physical effort are prime essentials. The rectum tube should be inserted slowly and not beyond the internal sphincter, the patient lying on the right side as flat as orthnopnea will permit. The injection should be given slowly, a few cc at a time, allowing twenty minutes for the entire procedure. The average dose is from 5 to 7 ounces. A 12 year old child requires about 3 ounces.

Use equal proportions of olive oil and surgical ether, employing an egg beater for 1 or 2 minutes. Care should be taken to use pure olive oil to avoid the risk of cotton seed or peanut oil sensitivity.

The anesthesia is usually light, never to the extent of occasioning any worry. Excitement and vomiting are seldom seen during the anesthesia induction. The duration of the anesthesia is usually several hours.

After from ½ to 1 hour of anesthesia, other methods such as epinephrine, previously unavailing, will become effective in comparatively small doses.

g. Intravenous injections of five per cent dextrose in normal salt is often life saving. The human body is provided with a delicately balanced mechanism for regulating the transfer of water between the blood and the tissue in either direction. The tissue constitutes a reservoir from which the fluid may be drawn into the blood if needed. When much fluid has been lost by perspiration and rapid respiration, the water supply being limited, the tissues become dehydrated, producing permeability of the endothelial membranes which allows the protein and plasma to escape into the adjacent tissue, thereby producing edema of the pulmonary tissues — continuing the vicious cycle.

It is for this reason that the water balance must be maintained. If too much fluid is given, it may wash out the necessary protein and plasma and defeat its purpose. To guard against such errors, we have adopted the following rule.

ADULTS

Fluid Intake

50 Kilo—give 3000—in 24 hours
70 Kilo—Give 4000—in 24 hours

IN ACUTE EMERGENCY—give 1000 cc in first hour, 500 cc in second hour, and then at the rate of 6 cc per minute.

CHILDREN
AGE

-3-

more	less
Dehydration	Moderate
50 cc per Kilo	75 cc per Kilo
Dehydration	Severe
100 cc per Kilo	125 cc per Kilo

The younger the child, the greater the fluid requirement per unit of body weight

Certain precautions are wise. If hemoconcentration is over sixty per cent of said volume, it is unwise to use large quantities of hypertonic solutions because of danger of bringing into circulation cell water, which is rich in electrolites and is definitely toxic when present in the plasma in quantities greater than normal.

In desperate cases, we add half a cubic centimeter of epinephrine, one to one thousand, well mixed with the dextrose in saline solution; however this practice must not be repeated too frequently.

Sedation — If absolutely necessary, Nembutal Suppositories, grains three, at six hour intervals; in extreme cases pantpon. Pantpon does not act as a depressant upon the respiratory system as morphine does and patients are less likely to be sensitive to the drug. We dissolve the pantpon, grains one-third, in 0.5 cc of adenalin and inject intra-muscularly at the rate of one minum per minute until relief is obtained.

Other drugs — There are no drugs of specific value. Some have benefited a few patients, most of them have failed. I am convinced that drugs are not readily absorbed from the gastro-intestinal tract under such circumstances and therefore are valueless.

Psycho-Therapy — When the emergency period is over and the patient is well controlled, psycho-therapy acts as a means of support to hold up the patient and carry him into a sphere where he can be helped to a complete recovery. It has been frequently advocated that a reputable physician must frequently deviate from medical ethics and promise a cure in order to effect a cure, in a chronic, misguided, nervous patient.

Dr. T. A. Ross, a British author on Psycho-Therapy, declares, "Doctors who sit on the fence, who are always guarding themselves against somebody's saying later that they made a mistake, are great creators and confirmers of neurosis."

The physician must remember that a nervous patient believes in what he feels just as firmly as the well person and therefore must not be argued with. Many physicians will tell their patients to snap out of it, but most of these patients can not get well on will power alone.

The first interview with these patients is very important, especially with women — they may disclose their subdued fears on their first visit but deny them later in order not to distort the impression they hope to have created on the doctor.

The patient must not be told that his illness is a neurosis. The physician must spend ample time to educate his patient in the study of allergy in order to convince them that they are not suffering from an incurable organic disease. This is a process of education by which he is lead to look squarely at his limitations without feeling sorry for himself.

They are to be educated to lead normal lives; unusual strains must be removed from their lives the same as allergens. Many of these patients do not want to get well, in fact, asthma is quite a convenience. To illustrate, I was called to see a female patient, age thirty, who had had asthma for five years.

From observation of the patient's behavior and the infrequency of her attacks, it was apparent that her asthma was of a nervous origin. I was informed by a friend of the patient that she was very much in love with the husband of her sister and had intimate relations with him at frequent intervals. If he paid any attention to other women in his place of business (where she was also employed) she would develop an asthmatic attack.

I informed her that her attacks were a defense mechanism and were likely the results of a love affair. She became very indignant and left my office. For the past two years, however, she has not had a single recurrence.

These patients have a mental idleness. They must develop some hobbies to keep themselves busy. They should be urged to take greater interest in their community affairs, develop hobbies, think less and work harder, and last if not least, not to look for miraculous cures.

Common sense should make us realize that to do justice to the sick individual with completeness and accuracy, there can be no such thing as treating sick organs, and the patient as a whole be forgotten. Sir James Paget declared:

The patient says he can not,
The doctor says he will not,
The truth is that he can not, will.

To substantiate the merits in the care of status asthmaticus as outlined in this article I will present a short symposium of two patients in a series of ten cases which we have treated in the hospital in the year of 1941.

Case 1. A male patient, age twenty-eight, was admitted to the hospital on September 5, 1942 in a state of very severe asthma, which had been in progress for five days. His red blood cell count was 5,200,000; Hemoglobin 96%; Leucocyte count was 8,000, with an Eosinophilia of 6%; Hematocrit reading was 44.2.

Upon admission to the hospital he was given 1500 cubic centimeters of five per cent dextrose in normal salt. Nembutal suppositories, grains three, were used as a sedative. His symptoms abated within twenty-four hours and within three days he was discharged as completely well.

Case 2. A female patient, age fifty-two, was admitted to the hospital August 9, 1942 with a severe attack of asthma which had lasted for seven days. All forms of treatment gave no relief and she was adrenalin fast. Her red blood cell count was 5,500,000, Hemoglobin 105%; Leucocyte count was 8,000 with an Eosinophilia of 10%; Hematocrit reading was 44.4.

She was given 3000 cubic centimeters of five per cent dextrose in normal salt within twenty-four hours in divided doses, and phenobarbital, grains one-half, at four hour intervals. The dextrose in saline was repeated on several occasions. She gradually improved and on August 17, 1941 was discharged from the hospital free of all symptoms.

In order to conserve time and space I have omitted the detailed description of the other eight cases treated during that period. Their symptoms were similar and treatment was followed according to the above described outline, with similar results.

SUMMARY AND CONCLUSIONS

Status asthmaticus could be avoided if the physicians were familiar with the etiological factors and general management as outlined in this presentation.

Many theories have been advanced as to the etiological factors in the allergic individuals. The theory of heredity can not be denied.

The nervous system is the trigger mechanism responsible for the altered reactions in allergic indivduals and is the underlying factor in capillary permeability which plays such an important role in edema of the tissues and one which has not received sufficient attention.

I have outlined in detail and in order of their importance the principle methods of application and have described them under three different headings, namely: *The Emergency Treatment,* which deals with the acutely ill patient who has been in a severe attack for several days and has not been relieved by the ordinary methods of treatment; *The Psychological Factors* which are often responsible for the immediate condition We must prevent *subsequent attacks.* To do this, we must supervise the patient for several years, teach him the principle causes which produce allergic reactions and are responsible for his difficulties. Patients must develop a philosophy that it is better to live with and tolerate minor allergies, than to treat them for major disasters.

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The Germans came to King Christian X of Denmark to demand that something should be done about the "Jewish problem" (the country has only a few thousand Jews).

"Sirs," the King is reported to have said, "as we have never considered ourselves inferior to the Jews, we have no such problem here."

Sixty thousand Americans, most of them young, die each year of tuberculosis. Compared with the loss of life from this cause a century ago, it is a triumph that there are only 60,000. Compared with the number who could be saved by the prompt application of modern knowledge, it shows gross neglect that there are so many. Surgeon General Thomas Paran, Survey-Graphic, March, 1942.

CHEMOTHERAPY: THE SULFONAMIDES

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Today a discussion of chemotherapy means a discussion of the sulfonamides. These compounds owe their effectiveness to direct bacteriostasis. They weaken the bacterial cells and slow their rate of growth. Perhaps a few organisms may pine away and die as a result of this action, but for practical purposes all of them are ultimately destroyed by the normal defense mechanisms of the body. It is extremely important to appreciate this fact because it explains in part why chemotherapy sometimes fails and why specific antibodies should always be administered when they are available and when prompt and continued improvement does not occur from chemotherapy alone. It also explains why the drugs should be continued for some time after the evidences of active infection subside, because if they are stopped before the natural defense mechanisms have had a chance to mobilize and gain the upper hand, a reinvasion by the bacteria is almost certain to occur.

There is one primary physical requisite for satisfactory results and that is an adequate local circulation. As any infectious process progresses the resulting inflammatory congestion slows the circulation. Therefore early therapy is important. For example, erysipelas almost always responds nicely but it is illogical to expect much benefit late in pneumonia when there is a completely consolidated, almost bloodless lung. For the same reason relatively bloodless regions, such as the bones, require very careful and prolonged therapy. Finally tissue necrosis, exudates, pockets or blind cavities interfere with the action of these chemicals and should be promptly drained. In other words any focal infection that is amenable to surgery should be eradicated.

Good results, naturally, depend primarily upon obtaining an adequate concentration of these drugs in the blood and body tissues as soon as possible. For severe infections experience has shown that this is ordinarily about 10 mg. per cent. To accomplish this the initial and subsequent daily maintenance dose should be about 0.1 of a gram per kilogram of body weight or approximately ¾ of a grain per pound. Children usually require slightly larger doses, 1 to 1½ grains per pound, because their elimination is more rapid. The maintenance dose should be divided into six parts and given every four hours. For less severe infections slightly lower concentrations, say 4 or 5 mg. per cent, are usually adequate. However no dogmatic schedule of dosage will always insure the desired blood levels because of variations in absorption and excretion. The only safe method of dosage is one controlled by frequent determinations of the actual blood level.

When these drugs cannot be given or retained by mouth they may be given subcutaneously or intravenously. Sulfanilamide may be given subcutaneously as a 1% solution in water or normal salt. It should not be given intravenously. For parenteral administration of the other drugs their sodium salt is used. For subcutaneous injection the strength of these solutions should not be much greater than 0.5 per cent and because they are distinctly on the alkaline side, they should not be given much faster than 250 cc. an hour in order to avoid local reactions. For intravenous injection a 5% solution is proper. Naturally the strength of these solutions may be reduced if more parenteral fluid is desired.

All patients whose condition requires or justified therapy with these drugs merit and should expect some special attention. Only in this way will optimal benefits be obtained and the occasional catastrophic results of severe toxic reactions be avoided. Naturally the necessary measures vary a good deal depending chiefly upon the quantity of the drug given and the condition of the patient. They may be briefly summarized as follows.

1. Inquiry about sensitivity. Although sensitivity is uncommon it does occur and with the almost universal use of these compounds more and more individuals are going to be encountered who have become sensitive. The most common manifestations are, of course, dermatitis and fever. They all require discontinuance of the drug. Although occasionally this sensitivity is transcient or limited to only one compound it is almost always permanent and general for the whole group. In such cases subsequent admin-

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istration will cause immediate and violent reactions. Therefore, every patient should be questioned before giving him the drug as to whether he has ever taken any of these compounds before and if so whether he has suffered any reaction. In case there is any doubt about the situation, it is best to administer only a few grains and observe the patient carefully for twelve to twenty-four hours before continuing.

2. Bacteriological examination or material for examination. Since the sulfonamides have a considerable degree of specificity in their antibacterial action the first requisite for their use is precise bacteriologic data and these examinations, particularly cultures and biological tests, such as pneumococcus typing, are often very unsatisfactory after treatment has been started.

3. Close observation. Hospitalization is desirable with a minimum requirement of daily observation or reports.

4. Laboratory checks. These include blood counts, urinalyses, fluid balance determinations and blood levels. The importance of laboratory checks cannot be over emphasized. However lack of facilities for these observations is not a contraindication to administering the drugs. Perrin Long has said that no significant drop in the white blood cells has been reported until these compounds have been given for at least ten days. As a minimum I would say that we should be sure that the twenty-four hour urinary output is at least 1000 cc. and that the urine should be observed daily for gross blood.

The sulfonamide drugs are still too new and there are still too many points of contraversy concerning their use for anybody to be expected to give a final answer at this time. Nevertheless I would like to say a few words in regard to each of the compounds now in general use.

Sulfanilamide is still a very useful drug because with it it is fairly easy to maintain constant blood and urine levels. It is indicated in streptococcus infections, meningococcus bacteremia, gonococcus bacteremia, Welch bacillus infections, trachoma, and chancroid.

Sulfapyridine has lost a good deal of its popularity because it is so insoluble, because it produces so much nausea and vomiting, and because it is so irregularly absorbed that it is difficult to attain and maintain adequate blood concentrations. Furthermore, it is very highly acetylated, 60 to 75% in some persons, and as you know the acetylated form is without bacteriostatic properties. To get blood levels around 5 mg% you have to use the sodium salt and, after the initial dose, give 2 grams every 4 hours. In fact, I think that whenever you prescribe sulfapyridine you should prescribe the sodium salt. To get blood levels above 5 mg% you usually have to resort to parenteral administration. Sulfapyridine is indicated in meningitis (except streptococcic), pneumococcus otitis, mastoiditis, and peritonitis, and influenza bacillus infections.

Sulfathiazole is a very valuable drug which seldom upsets the patient. However it is quite insoluble and is very rapidly eliminated by the kidneys, in fact so rapidly that it is very difficult to maintain elevated blood concentrations. Under the ordinary methods of administration one seldom sees a blood concentration much above 2 mg%. Therefore, if you have a patient desperately sick with pneumonia or a staphylococcus septicemia you should use the sodium salt, give one and one-half times the calculated dose and repeat it oftener, and if you desire blood levels much above 5 mg% you should start with parenteral injections. One of the great drawbacks to both sulfathiazole and sulfapyridine is the danger of renal block by precipitated crystals and this danger is of course much greater when we attempt to maintain high blood levels. Sulfathiazole is indicated in pneumococcus pneumonia, staphyloccus infections (except meningitis), gonococcus infections and urinary tract infections (except streptococcus).

If present indications are substantiated sulfadiazine will undoubtedly become the sulfonamide of choice. It is not only the least toxic of the group but is so readily and uniformly absorbed and so slowly excreted, that higher blood concentrations are reached and maintained than with any of the other compounds. Furthermore excretion is a little slower than absorption so that if the same doses are continued there is a gradual tendency for the blood concentration to rise. Finally there is very little acetylation even when high blood levels are maintained for several days and what acetylated form develops is more readily soluble than the original drug. It is indicated in all infections for which the sulfonamide compounds are effective.

PERFORATING GUNSHOT AND STAB WOUNDS OF THE CHEST

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From a period beginning January 1, 1931, to December 31, 1941 inclusive, 424 cases suffering from perforating gunshot and stab wounds of the chest were treated at the House of Correction Emergency Hospital, Chicago. 323 cases were due to gunshots, and 101 were due to perforating stab wounds. In this period, a total of 63 cases died, giving a mortality of 14.8%. This included all deaths with concomitant abdominal pathology, gunshot skull fractures and comminuted fractures of the thoracic vertebra with complete spinal cord severance. The total number of deaths from perforating stab and gunshot wounds of the chest per se was 25 or 5.9%.

Post-mortem showed that these cases died from perforating lacerations of the lung with massive hemothorax or perforating lacerations of the heart and its great blood vessels. 40 cases of the total 63 cases that died presented hemothorax on necropsy.

Of the total 63 cases that died, 30 cases had associated abdominal pathology, 6 cases had chest injury with comminuted fractures of the thoracic vertebra with spinal cord severance, and 2 cases had chest injury with gunshot skull fractures. The 30 cases that died of perforating chest wounds, associated abdominal pathology presented such post-mortem findings as perforating lacerations of the diaphragm, liver, stomach, small and large intestine, spleen, kidneys and adrenals. 20 of these cases were submitted to surgery and succumbed 7½ hours to 3 days after admission.

We have ascertained in our series of cases, that perforating lacerations of the lung, associated with perforations of the abdominal viscera, usually carry a high mortality in spite of surgery. The remaining 10 cases that died of chest injury, associated with abdominal pathology, expired in 10 minutes to 5½ hours after admission. The principal causes of death were primarily due to shock and hemorrhage, change in intra-pleural pressure or massive hemothorax and associated abdominal pathology.

Stephens and Cohn[1] state that hemorrhage, alterations in intra-pleural pressure and infections are the main causes of death in penetrating wounds of the chest. In our series of cases, we have encountered only one death due to infection; this being due to a stab wound of the lower right posterior chest, perforating the liver, resulting in a subphrenic abscess and rupturing through the diaphragm into the right pleural cavity.

54 cases that died had perforating gunshot wounds of the chest; 19 of these cases had through and through perforations. In 35 cases the bullet entered the pleural cavity, but presented no exit. We are of the opinion that gunshot wounds of the chest, having an entrance with no exit, carry a higher mortality than through and through gunshots because a bullet which has no exit produces multiple ricochets against the bony thoracic cage causing multiple lacerations of the lung, and frequently perforating through the diaphragm into the peritoneal cavity. This was a common post-mortem finding and demonstrates the fact that this type of wound is multiple and complicated rather than a clear through and through injury.

14 cases out of the 54 gunshots of the chest that died had multiple entrances and exits. Of the total number of 63 deaths, 9 cases were due to perforating stab wounds of the chest.

It is interesting to note that in this series of cases, the number of left anterior chest perforations totaled 164, while right anterior perforations totaled 107. In comparison, the right posterior chest perforations totaled 88 and the left posterior perforations totaled 65. This phenomena can be explained by the position of the victim and the right-handedness of the assailant.

A great emphasis has been placed by other writers on the symptoms present on the first examination of the injured individual.

Connors and Stenbuck[2] reported in a series of 109 cases, the infrequency of hemoptysis as a presenting symptom. Hemoptysis was only seen twice in their series of cases. In our study, however, hemoptysis was present in 192 cases, or 45%.

McGuire[3] states that hemothorax appears as a late physical finding, usually becoming evident on the third day after the injury. In our

series of 424 cases, hemothorax was evident immediately on admission or within two hours following; in other words, 215 or 51% presented hemothorax.

The condition on entrance of these patients varied. Of the 424 total admissions in this 10 year study, 254 cases were admitted on stretcher; the remaining 170 were ambulatory. 141 patients, or 33%, showed signs of shock and hemorrhage.

TABLE I

GENERAL SURVEY OF PERFORATING GUNSHOT AND STAB WOUNDS OF THE CHEST

424 Total Number of Cases Admitted from January 1, 1931, to December 31, 1941, inclusive

	Number of Cases	Percent
Gunshot Wounds	323	76%
Stab Wounds	101	24%
Ambulatory Cases	170	40%
Stretcher Cases	254	60%
Left Anterior Chest Stab and Gunshot Wounds	164	39%
Right Anterior	107	25%
Left Posterior	65	15%
Right Posterior	88	21%
Through and Through Gunshot Wounds of the Chest	168	52%
Gunshot Wounds of Chest with No Exit	155	48%
Multiple Gunshot Perforations of the Chest	36	11%
Shock and Hemorrhage	141	33%
Hemoptysis	192	45%
Hemathorax	215	51%
Subcutaneous Emphysema	56	11%
Reflex Rigidity	112	26%
Total Deaths	63	14.8%
Deaths due to Chest Wounds per se	25	5.9%

One problem on entrance was the presence or absence of coexistent abdominal pathology. Abdominal rigidity was noted in 112 cases, or 26%.

Abdominal rigidity was noted more frequently in perforating gunshot wounds of the chest with no exits and perforating stab wounds. The question arose as to whether this rigidity was of reflex origin or indicative of perforation of abdominal viscera. By placing the patient on a back-rest with relaxation of the abdominal musculature, the rigidity disappeared within one-half to 2 hours in purely chest cases, while it persisted in those cases with coexistent abdominal pathology.

In all cases, an increase in temperature was noted on the day following admittance. In cases uncomplicated by hemothorax, the temperature varied from 99 to 100 degrees falling to normal on the third day. In those cases having hemothorax, the temperature rose to 102-103 degrees, remaining elevated until the 6-7 day, despite the oral and intravenous fluid intake. This phenomena is probably analogous to the slight pyrexia following auto-hemotherapy.

Hospitalized patients presented numerous variations in the type of complications. The most common complications were fracture of the adjacent ribs, hematomas at the site of entrance of the missle, concomitant abdominal pathology with perforated abdominal viscera, skull fractures, comminuted fractures of the thoracic vertebra with complete spinal cord severance, while brachial nerve injury and superficial wound infections were seen in other cases.

Among the more frequent complications was subcutaneous emphysema of the area surrounding the entrance of the missle. Subcutaneous emphysema was seen in 56 cases, or 11%.

In our series of 424 cases, subcutaneous emphysema was seen much more frequently in perforating chest injuries due to blunt instruments, such as stab wounds and frequently in gunshot wounds having no exit.

It is interesting to note the slight incidence of intra-thoracic infection when one considers the bacterial contamination carried in from the missle itself and through the contaminated clothes and skin. Two cases of the 424 admitted, developed infected hemothorax. These two cases of infected hemothorax developed after thoracentesis had been performed prior to admission to our hospital. Three cases out of the 424 total admissions developed superficial skin abscesses at the site of entrance of the missle. In this series of cases, we observed no pneumonia, lung abscess or gangrene of the lung; such complications we believe, occur more often with wounds caused by grenade or shrapnel fragments.

Post-mortem examinations were performed on the 63 cases that died. Autopsy findings were significant in the study of the actual cause of death. Shock and hemorrhage and laceration of the lung with massive hemothorax and laceration of the heart and its great vessels was responsible for 25 deaths; two cases died as the result of gunshot skull fractures with laceration of the brain substance and hemorrhage. The chest injuries in these two cases could be considered of secondary importance. Six cases died from chest

injury associated with comminuted fracture of the thoracic vertebra with complete spinal cord severance. Thirty cases out of the 424 admissions died from chest injury associated with abdominal pathology.

Conservatism is essential in the treatment of perforating wounds of the chest. After careful examination of the patient and administration of 1500 units of tetanus antitoxin, the patient is placed on a back-rest or in Fowler's position, depending upon which position the patient is found to be the most comfortable.

Shock and hemorrhage is combatted immediately by application of external heat and administration of normal saline with glucose intravenously. Fluids are pushed by mouth in the absence of abdominal pathology. Recently we have attempted to use suprarenal cortical hormone and blood plasma to combat shock and hemorrhage, but the number of cases has been insufficient to arrive at any definite conclusion as to its superiority of its treatment over the old ones. Blood transfusion has never been used at any time.

TABLE II

MORTALITY ANALYSIS OF PERFORATING WOUNDS OF THE CHEST

Total Number of deaths due to gunshot and stab wounds	63
*Deaths due to gunshot wounds	54
1) Through and through wounds	19
2) Entrance and no exit	35
Deaths due to stab wounds	9
Deaths due to gunshot and stab wounds per se	25
Deaths due to chest wounds with associated abdominal pathology	30
Deaths due to chest wounds with associated comminuted fracture of thoracic vertebra and spinal cord severance	6
Deaths due to chest wounds with associated gunshot skull fracture	2
Deaths due to chest wounds presenting hemothorax on necropsy	40

*14 Cases out of the 54 gunshot cases presented multiple perforations of the chest.

Strict asepsis in local treatment of the chest-wounds is essential. No probing of the wound is attempted at any time. Wounds are cleansed thoroughly with greensoap, peroxide and antiseptic solutions such as tincture Merthiolate or Mercurochrome, are applied to the wounds and covered with sterile dressings. Occasionally we have strapped the injured side of the chest with adhesive tape so as to limit the respiratory movements. Sucking type perforations were closed immediately by suturing with cat gut and dermal sutures or packing. Bullets were removed only when lying accessible in the subcutaneous tissues and then only when the patient was well on the road to recovery.

Rest is essential. Morphine sulphate grains 1/4 is given hypodermically every 6 to 12 hours to its physiological effect and restlessness, cough, dyspnea and anxiety will soon subside.

Administration of hemostatics is next considered. Ice bags are placed over the injured area. In the absence of abdominal pathology, Calcium lactate or Dicalcium phosphate grains xxx is given orally four times daily. 10% Calcium gluconate 10 cc is given intravenously daily until hemoptysis subsides. All cases that presented signs of shock and hemorrhage are given Coagulen (Ciba) 1 cc intramuscularly every 4 hours until the pulse becomes full, strong and regular and between 80 to 90.

After Morphine becomes no longer necessary, cough and dyspnea is controlled by the administration of codeine sulphate, one grain three times daily.

We have performed no thoracentesis at any time, believing that the blood in the pleural cavity acts as a splint in the injured lung, thus preventing further hemorrhage and keeping the lung at rest. Blood is the best culture for pathogenic bacteria and repeated thoracentesis, no matter how aseptic the technique affords a possible mode of infection by these bacteria. We reiterate that despite the contamination brought in by the penetrating missle or object, we have never found any infected hemothorax per se.

SUMMARY

1. Left anterior chest wounds and right posterior chest wounds are more numerous, due to the position of the victim and the right-handedness of the assailant.
2. Multiple perforations and perforations with no exits carry a greater mortality than through and through perforations.
3. Hemoptysis is a common symptom being found in 45% of our cases.
4. Hemothorax develops immediately or within a few hours after entrance.
5. Chest wounds without accompanying abdominal pathology are in themselves rarely fatal. If patient lives thirty-six hours after injury the ultimate prognosis is favorable.

6. We contribute our low mortality and absence of secondary complications to the use of conservative treatment.

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THE PUBLIC HEALTH IN WAR TIME

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This is War — all our peace time pursuits are of secondary importance except in so far as they are directly connected with the war effort. This is true of all industrial and professional fields in which either materials or skills are concerned. It is no less true in the field of medicine and public health. It is our job as physicians to meet the medical needs, not only of the armed forces, but also of the population at home so that we as a nation might be strong and so that a successful outcome of this war might be assured.

This is Total War — and, as such, it calls for the greatest effort, in the shortest time, which has ever been attempted not only in this country but in any nation in the world's history. The tremendous medical and public health problems which present themselves in this war can only be solved successfully by complete cooperation and by a careful distribution or rationing of the professional services which are available to do the job. We cannot afford needless duplication of services, because we don't have the services to spare.

I should like to discuss with you briefly a few of the health problems which have arisen as a result of the all-out war effort, or which existed previously but which now require attention on account of their importance in the program of all-out production. I should like to mention briefly the responsibilities of official health agencies and of the medical profession in meeting such problems in view of increasing difficulties in connection with the increasing depletion of medical and public health personnel.

The establishment of military concentrations as well as the construction of large war production plants have resulted in population shifts of quite some proportions and have created in connection with these population shifts important public health problems which have to be dealt with on short notice. Towns have grown into cities almost over night — populations of a thousand or less have been increased within a few weeks or months to many thousands. The complete absence of public water supplies — of sewage disposal facilities — and of the sanitary regulation of food supplies has made it mandatory that these needs be met in order to protect the population from serious outbreaks of food-borne or water-borne diseases.

On the other hand, the establishment of safe water supplies requires labor and materials which are also needed in making tanks, ships, and guns. We must use judgment, therefore, in the construction of necessary community sanitary facilities such as sewage treatment plants in order that critical war materials might not be utilized except in instances where no other alternative remains. In the case of sewage, it might be necessary for us to tolerate a continued pollution of our streams, up to a certain point, as a necessary evil during the war emergency because it is not wise that we should provide modern facilities in connection with a need which might be met by other means than added construction.

Influxes of population in military or production areas have increased housing problems which should be met in some way to prevent overcrowding. The necessity for the conservation of critical materials, however, again makes it necessary that judgment be exercised in the construction of additional housing facilities.

The mushroom growth of communities as described above has created acute problems in connection with the regulation of food dispensing establishments in critical areas. In many localities local health departments were weak or non-existent. Uncertainty in regard to political jurisdictions confused the issue further, so that for a time no clear-cut regulation of newly established food dispensing establishments was readily available in many areas. It became nec-

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essary for the respective State health departments to assume the responsibility for setting up temporary sanitary safeguards until local health services could be organized in such areas.

The Community Facilities Bill was designed to provide for the construction of public water supplies, sewage treatment plants, schools, and hospital facilities, the need for which was created by the war emergency. Many of these projects were approved and construction was scheduled. At this time, however, it becomes necessary for the War Production Board to again review the approved, proposed construction projects with a view towards a conservation of vital materials and it now appears that the lowly sanitary privy might have to be utilized more than we previously imagined would be necessary, during the present emergency on account of the scarcity of materials for the construction of adequate sewerage or sewage treatment facilities.

Although there is evidence to show that the sulfonamides are an effective chemotherapeutic agent in tuberculosis in animals, the effect in human tuberculosis has not been encouraging. Some authorities believe this is a result of poor nutrition. However, provisional figures for the State of Illinois show that there has also been an increase in pulmonary tuberculosis here recently. During the year 1941, more than 8,000 tuberculosis cases were reported in this State, as compared with approximately 7,000 during the year 1939-40.

There is some evidence to show that the attack on tuberculosis through chemotherapy might yield fruitful results heretofore not achieved. Animal experiments indicate that one of the sulfonamides might well prove to be a boon in the therapeutic approach to tuberculosis. At the present time, one of the most acute public health needs of this State is the provision for additional hospital beds for tuberculosis cases. These beds can be provided most economically on a statewide basis. At the present time, there are certain areas in Illinois where beds are not now available for tuberculosis patients. As long as it is necessary to keep the open tuberculosis patient in the home, we may expect transmission of the disease to many of his susceptible contacts.

Other preventable communicable diseases such as diphtheria and smallpox still occur in this country, in spite of the availability of effective control measures through immunization. In this connection, it is the duty of every practicing physician as part of his public halth job to make sure that every child who comes under his care is immunized against diphtheria and smallpox. If this were done by the practicing physician, it would not be necessary for the departments of health to conduct immunization campaigns in order to get enough people immunized to prevent an epidemic. Approximately 1,000 cases of diphtheria were reported in Illinois in 1941.

The venereal diseases continue to be a problem as the cause of disability in the armed forces and in defense industries. The control of this problem, however, has gotten off to a good start. State and local departments of health, for the most part, are alert to the problem and are far better equipped than ever before to deal with it. The Congress has made available, through the Public Health Service, under the provisions of the venereal Disease Control Act, considerable funds for venereal disease control. These funds, together with those which were appropriated on State and local levels, have improved diagnostic and treatment facilities in all States. Infected individuals are being brought under treatment more promptly, thus preventing the infection of many others. Sexual contacts of infected persons are being found, examined, and brought under treatment, if found infected. Here, again, the private physician has a public health duty to perform. I believe that if the physician who makes a diagnosis of venereal disease has the confidence of his patient he is in a much better position than the most highly trained investigator to influence such patient to want to bring the source of his infection under treatment. If such is not the case, a good selling job has not been done by the doctor on the public health implications of syphilis or gonorrhea. Fortunately, our treatment methods have been greatly improved. The treatment period of gonorrhea has been tremendously shortened and in syphilis a limited experience leads us to believe that the same will be true.

While malaria has not presented itself in large outbreaks, the potentialities are to be reckoned with. Especially is this true where large

numbers of troops are moved from a malarious area to one in which the disease may not be prevalent at the moment, but where anophalene mosquitoes are known to exist. The Public Health Service has been authorized to engage in a comprehensive malaria control program which is just getting under way in certain areas.

Industrial production for our war effort is of paramount importance. Consequently, the health of the industrial worker assumes added significance at this time. A recent analysis of industrial hygiene activities in State and local health departments was recently made. There are approximately twenty-nine and one-half million industrial workers in twenty-five States. About half of these are engaged in industries with potential health hazards. Less than two million of these are reached through industrial hygiene services designed to remove hazardous working conditions. It was concluded that at least half the employees are working under conditions that need correction or improvement. The Chief of the Division of Industrial Hygiene in the National Institute of Health recently pointed out that in 1940 about seven million days were lost from work because of strikes; in the same year, approximately 350,000,000 days were lost because of disability.

Important advances through research in chemical engineering and in clinical fields have made possible the elimination of many specific occupational hazards. This knowledge has not been effectively applied to a large proportion of industrial workers. As is true in many other fields of medicine, there is a large gap between what is known and what is done.

The need for hospital facilities in many critical areas has become acute and inasmuch as hospitalization for production workers is a vital necessity, provision has been made through the Community Facilities Bill or the Lanham Act for the construction of additional hospital beds. This construction was originally planned as additions to existing permanent institutions, but the shortage of critical building materials has made it necessary for the War Production Board to scrutinize carefully all hospital construction of a permanent nature. It is apparent that much of this construction of hospital facilities will of necessity be done on a temporary basis. The demand for hospital beds has increased tremendously on account of population influx resulting from increased employment due to the war effort, to the improved economic status of a large segment of our population, and to the organization of pre-payment hospitalization plans. The Public Health Service has been engaged in making hospital surveys in critical production and military areas and has made recommendations, in regard to the needs, to the Federal Works Agency, which is charged under the Lanham Act to administer the funds which have been made available for the construction of additional hospital facilities.

One of the most urgent problems which confront military and civilian authorities today is a shortage of physicians and nurses. The needs of the armed services must of necessity take priority over those of the civilian population. Col. George F. Lull, Chief of the Personnel Division, U. S. Army Medical Corps, stated several weeks ago that the Army will need approximately 24,000 physicians during 1942. It has been estimated that a rate of approximately six and one-half physicians will be needed for every thousand soldiers. If this is ultimately shown to be correct, from 40,000 to 60,000 medical men will be needed in the armed forces. When one considers that only from 165,000 to 180,000 physicians are available for the rendition of medical services it at once becomes apparent that most physicians under the age of forty-five will be needed purely for military services. It is evident that some kind of a distribution process will be necessary if the essential needs of the large civilian population group are to be met. The depletion of medical personnel is already evident. It will become more evident as time goes on. This is especially true in rural areas, many of which do not have any physicians whatsoever available. An exodus of young physicians from rural to urban areas has been observed for a number of years. As vacancies are created in cities as a result of military recruitment, this migration from rural areas will very likely continue, unless the Procurement and Assignment Service is able to effect a rational redistribution of physicians on a nation-wide basis. Whether or not this will be necessary remains to be seen.

In addition to a shortage which exists among practicing physicians, a shortage of other types of trained public health personnel is also being observed. There is an acute need for the organization of new county health departments, but personnel to man such departments is becoming scarcer. This is true not only of physicians, but of trained public health nurses, sanitary engineers, and sanitariums. The Public Health Service has attempted to alleviate this situation to a limited degree by placing on active duty within the several States some eight hundred public health workers to be utilized by the several States in critical military production areas.

Every county with a population of 30,000 or more should have a full-time county health department, under the administrative direction of a trained public health administrator. It should be the responsibility of this department to discharge the duties imposed upon it by law as the official health arm of the local government. It should receive assistance from the State health department through funds from State and federal sources and through consultation services from specially trained personnel in the State department of health. The county health department should be interested in all measures which will operate to improve the health of the people within that county. In so far as possible, it should be given administrative control of the expenditure of all tax funds for health purposes on the county level.

Needless duplication of services on all levels should be discontinued at least for the duration of the war and probably after the war. On the county level, the county health officer should coordinate in so far as possible the efforts of voluntary health agencies. He should work closely with the organized medical profession and with other professional groups in all matters which pertain to the public health. This is especially urgent at this time on account of the depletion of medical personnel which will reflect itself in increased public health and medical care needs including hospitalization.

At the present time, the State of Illinois does not have legislation permitting the establishment of county health departments in the usual manner. It is hoped that such legislation will be forthcoming at the next session of the State Legislature.

Authority has been granted, however, by the emergency session of the State General Assembly permitting the State Health Officer to designate certain areas as defense areas and to set up and operate public health services in such areas. Under this authority and through a cooperative arrangement with county governments, I am informed that three counties are now ready to begin a more concentrated type of local health services through full-time county health units.

The relationship between the U. S. Public Health Service and the Illinois State Health Department has been most cordial. Under the able administrative supervision of Dr. Roland R. Cross, the staff of the Department has been strengthened materially. We have every reason to believe that the future in regard to adequate public health services in Illinois is very bright.

In conclusion some thought should be given to the problems which will present themselves in the future. Large numbers of our military forces are being sent to the four corners of the earth. They will be exposed to a great variety of new diseases and environments and upon their return the possibility of preparing for such new diseases and new health problems should be considered.

I do not like hay fever
It makes me leak and cough,
I'd rather be a porker
And eat from out a trough;
And yet my hat I doff, sir,
Though mostly on and off
To any man past eighty
Who plays a game of golf.

Young people attending tuberculous patients must be very closely watched. Tuberculin-negative persons are especially in danger. Even the tuberculin-positive persons, if young, may have become positive only very recently and therefore are still not out of danger. All newly discovered X-ray lesions in young adults must be treated as potential phthisis — by a period of observation under rest. Edgar Mayer, M.D. and Israel Rappaport, M.D., Jour. of Med. Assn., Apr. 4, 1942.

THE PRESENT STATUS OF SHOCK THERAPY

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Many articles have been written on the subject of shock therapy. A mere reading of titles on the subject would fill more than the allotted time for this paper, although such papers have been appearing in this country only for about five years.

The purpose of this paper is to present a brief survey of the more practical aspects of shock therapy. There will not be time to attempt to reconcile reports which appear to be contradictory nor to dwell upon points of view which may prove of tremendous importance ultimately but which must wait for a longer view to prove their worth.

Probably one of the first questions to arise would relate to the benefit obtained from shock treatment. The applications of shock therapy are now numbered by the tens of thousands. Dr. Lawrence Kolb, Assistant Surgeon General of the U. S. Public Health Service is making a report of over 70,000 shock therapy cases based upon records from 260 hospitals. Some workers have ceased to give the treatment. Relapse may occur, not all cases respond favorably, and there are dangers. One may assume that one or more of the factors mentioned have discouraged some to the point at which they have discontinued shock therapy. Generally speaking the recent reports coincide with those of three or four years ago, that the treatments bring a social or complete remission in the great majority of cases of schizophrenia which have not been ill for more than six months. Results are somewhat less favorable in cases of longer duration. Remissions are infrequent in those who have been ill for more than two years, although they may show a more docile behavior.

During the past two or three years, most workers have come to feel that insulin is of more value in schizophrenia than convulsive therapy, whereas the latter is of more benefit in manic depressive psychosis of the depressed type, involutional melancholia and presenile depressions. Most do not believe the psychoneuroses are helped by shock therapy.

A mild hyperinsulinism has been recommended for acute alcoholism and the toxic condition of the chronic alcoholic but there may be some question whether this should be termed shock therapy.

Another question of immediate importance has to do with the dangers inherent in the treatment. A general statement may be made that all prospective cases should be in fairly good bodily condition. This view is expressed in different terms by different writers. One would hesitate to give treatment to the very weak, to those suffering from malignant disease, tuberculosis, or myocardial degeneration, and in conditions in which the spine had been weakened by disease. Yet the actual decision should always rest upon consideration of the individual factors. These have to do not merely with the general condition of the patient but also with the probability of improvement in the mental sphere under shock therapy as contrasted with the prognosis without treatment. The probability that shock treatment will shorten a psychosis has its economic, as well as social, importance.

There are particular hazards which have to be considered. The chief of these in insulin shock treatment is protracted coma. Ordinarily the administration of glucose brings the patient out of the coma in from 10 to 30 minutes with nasal feeding, and even more promptly if the glucose is given intravenously. If one delays beyond a certain point, a stage may be reached in which coma goes on for hours, or even a few days, despite glucose administration. Histopathological changes in the brain are said to occur in the protracted comas, and deaths as a result have been reported. On the other hand, many workers report that benefit in the psychoses does not occur unless the coma has been permitted to go on for about an hour. In this connection, the work of Frostig[1] is of particular interest. He enumerates a number of signs among which, in addition to deep coma, are pin point pupils, tonic extensor spasms and depression of all reflexes including those of lid and cornea, which indicate that the shock should be terminated. He believes that a protracted coma will occur only when these signs are not heeded and glucose withheld.

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Metrazol as a convulsive agent has been superceded to a large extent by the electric current. The latter is not associated with a sense of fear such as is found between the injection of metrazol and the convulsion caused by it. One does not have to find a vein which in some cases is a not inconsiderable problem. It is stated that fractures are less apt to occur with the electric shock than when metrazol is used. It is possible that the newer technic of firm mattress, hyperextension of dorsal spine by means of a pad or sand-bag, with restriction of the grosser movements, may be in part responsible for the more favorable results. After reports were received of fracture of the dorsal vertebrae occurring with convulsive shock treatment, various modes of preventing fracture were tried. Injections of Curare and similarly acting drugs cause temporary weakness of musculature and prevent the strong contractures which lead to fractures. Preliminary anaesthesia with Nitrous Oxide has been given with a similar purpose. These measures for altering the convulsion have there adherents, but no one is generally adopted. The majority seem to feel that hyperextension and restriction of movement make the treatment fairly safe.

Another hazard in convulsive therapy is the activation of a quiescent tuberculous lung. In a series of 297 cases, Read[2] found that 8.3% developed an active tuberculosis of the lung following a series of metrazol treatments. It is probable that having been warned of this danger, the percentage of activations can be decreased by a careful survey before and after treatment, general hygienic attention and supervision of the resumption of activity.

An important feature of the treatment with both insulin and convulsive therapy lies in the fact that the patient is more accessible immediately after the shock. It seems that the veil which ordinarily surrounds the patient is lifted for a little while, making possible a degree of rapport which before had been impossible. These periods of understanding increase in depth and in duration as time passes until the patient is in a remission.

It was implied in the fore part of this paper that all reports on shock therapy are not in accord. The only significance of this statement so far as this presentation is concerned, is to call attention to the fact that the ideas of various workers in this field are still in process of being shaken down.

One of the important questions which remains unanswered is that of the mechanism underlying improvement. One would not expect to find any simple answer to the problem of mental disorders but it may well be that further work along various lines suggested by shock treatment will bring a definite advance in our understanding of them. Any agent which causes symptoms to disappear, particularly in a condition as complex as that of a psychosis, must shed light on such conditions if we have the wisdom to interpret that light. It is not too much to hope that study of the problems presented by shock therapy will ultimately help us to reach the point at which we can not only treat the psychoses but perhaps prevent them.

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GALL BLADDER DISEASE

With Special Reference to Alterations in the Anatomy and Physiology of the Gall Bladder

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"Gall Bladder Disease" refers to that symptom complex usually associated with distress in the right upper quadrant of the abdomen. In some instances the symptoms are very pronounced while the physical findings are indefinite or absent; in others the physical findings may be very definite although the symptoms are mild and of short duration or referable to some other organ. Such discrepancies between symptoms and physical findings are due to variations in the intensity and character of the disease in the gall bladder itself and to the extent of derangement in the anatomy and physiology of the organs adjacent to or associated with it. An analysis of gall bladder disease is inadequate unless consideration is given to the alterations that may be present in the liver and the organs

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physiologically concerned with its activities, the pancreas, stomach, duodenum, colon, appendix and at times the thoracic viscera.

The present discussion is primarily concerned with the anatomy and physiology of the gall bladder and the pathologic changes that result in or are related to disease of this organ. The functions of the gall bladder are absorption, secretion and motor activity. Unlike the normal appendix, the gall bladder free from disease cannot be removed without producing anatomic, physiologic and at times, pathologic changes in the adjacent viscera.

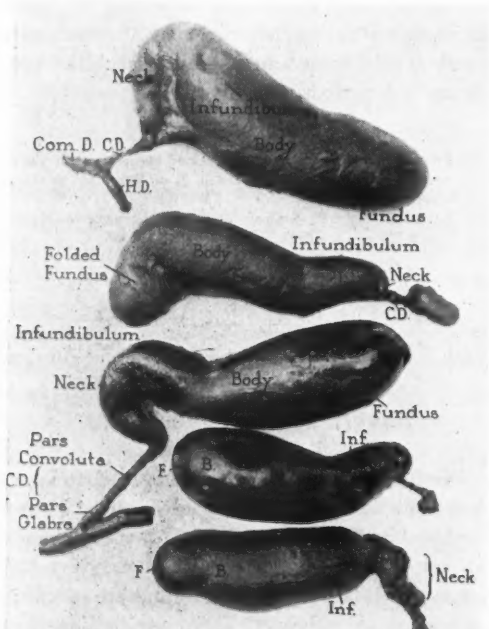

Figure 1. Variations of shape and size in the gall bladder.

Anatomy. The gall bladder is a part of the extra hepatic biliary system. It varies in size, shape, contour and capacity (Figure 1). The fundus frequently is completely covered with visceral peritoneum and usually lies in contact with the parietal peritoneum over a small area. This area is significant in the physical examination of the patient with acute gall bladder disease, because this local point of acute tenderness may be diagnostic. The body of the organ varies in capacity and tapers into a funnel shaped portion called the infundibulum. This constricted area is frequently the site of the lodgement of large stones. The neck is defined as that portion which extends from the first "valve of Heister" to the cystic duct. This portion of the gall bladder is usually kinked and frequently is the site of obstruction. The cystic duct varies in size. In a recent study (Figure 1) 55 per cent were found to be between 2 and 4 cm. long, 20 per cent were less than 2 cm. in length while 25 per cent measured more than 4 cm. The calibre of the cystic duct varies, but its circumference which is smaller than that of the hepatic or common bile duct, is approximately 6 mm. This small calibre of the cystic duct is of significance, since many accidents in gall bladder surgery occur about the cystic duct at its site of contact or union with the hepatic duct. Careful examination to determine anatomical relations should always be carried out and it may be assumed that a "large duct" in this region is most probably not the cystic duct. Within the lumen of the cystic duct there are a variable number of projections arranged in a spiral known as the "Valves of Heister." (Figure 2). These are found throughout the length of short cystic ducts, but may be absent in the distal portion of long ducts. It is this distal portion free from "valves" which dilates following cholecystectomy and is sometimes erroneously referred to as "regeneration of the gall bladder." The function of the "valves of Heister" is not known, but they appear to be an architectural device for the prevention of sudden distention of the duct when variations in pressure occur in the gall bladder or in the common duct. Their presence decreases the calibre of the cystic duct and impedes the flow when thick bile is expelled from the gall bladder. Their delicate structure makes them subject to inflammatory changes, either chemical, bacterial or allergic. These changes result in further narrowing of the lumen of the duct and serve as the basis for more extensive changes in the gall bladder proper. Redundancy of these folds and kinks in the duct also may be responsible for obstruction to the free flow of bile into or out from the gall bladder. In addition, obstruction may be produced by small stones lodged in the cystic duct. The

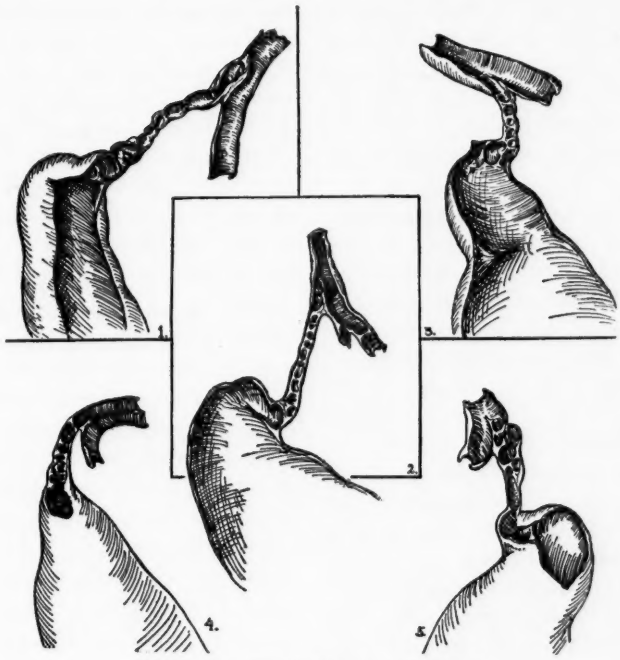

Figure 2. The "Valves of Heister."

small cup shaped areas formed by the valves may act as pits in which gall bladder debris may accumulate, become impacted and form stones. Thus the cystic duct because of its size and anatomical structure is a vulnerable site for the inception of more extensive disease in the gall bladder. From the point of view of prevention of gall bladder disease it would appear that a dilute freely flowing bile is least likely to cause the disturbances usually associated with the changes following cystic duct obstruction.

The left and right hepatic ducts unite to form a common hepatic duct. This and the cystic duct become continuous as the common bile duct. The latter varies in length depending on the length of the cystic duct. Walters found that in two-thirds of a group of cases the head of the pancreas surrounded the common duct; in the remaining one-third the duct lay behind the pancreas. The significance of biliary tract obstruction associated with enlargement of the head of the pancreas is obvious.

In many instances the common duct unites with the pancreatic duct before opening into the duodenum. This common pathway for bile and pancreatic juice may be a source of chemical disturbances that will determine not only pancreatic disease but gall bladder disease as well. Wolfer indicated the possible cause of gall bladder disease due to pancreatic juice reflux. The alkaline pancreatic juice in a gall bladder that has bile acids may result in chemical changes leading to precipitation of gall bladder contents.

The fact that the common duct passes through the muscular wall of the duodenum may also give rise to functional disturbances, for contractions of the duodenum may interfere with the passage of bile through the common duct. The distal end of the common duct is surrounded by a circular muscle bundle, the sphincter of Oddi. This muscle is of importance for it regulates to a considerable extent the filling and emptying of the gall bladder. When the sphincter is incompetent the gall bladder does not fill. Cholecystectomy frequently results in a relaxation (paresis) of the sphincter.

Physiology. Bile secreted by the liver passes through the common duct into the duodenum under a pressure of 3 to 10 cm. When the sphincter of Oddi is closed, bile meets this barrier and passes into the gall bladder. The anatomic

capacity of the gall bladder varies, but may accommodate from 30 to 90 c.c. The liver produces approximately 1000 c.c. of bile daily. The need for bile in the intestinal canal is not continuous and its storage in the gall bladder prevents the waste of this material in the inter-digestive period.

The physiologic capacity of the gall bladder varies from 2 to 10 times greater than its anatomic capacity. This is due to the concentrating ability of the gall bladder. With the absorption of water, the total solids may be concentrated to 20 per cent of the total volume of gall bladder bile. A dilute hepatic bile may be concentrated as much as 10 times, but a more concentrated hepatic bile undergoes lesser concentration. In addition to the absorption of water, sufficient salts are absorbed to render the gall bladder bile iso-osmotic with hepatic bile. This prevents changes in the mucous membrane that may be caused by a hypertonic solution. Bicarbonate is also absorbed. This renders gall bladder bile acid, and the bile salts present in hepatic bile are converted into bile acids.

The bile salts are the most important constituent of bile. In the intestinal canal they not only assist in the emulsification of fats so as to facilitate their digestion but also aid in the process of absorption of fats. Absorption of the fat soluble vitamins, A, D, E, and K is dependent on the presence of bile salts in the intestinal canal. In the presence of liver disease there is a reduction in the formation of bile salts. This interferes considerably with the absorption of fats. In the gall bladder the bile acids keep in solution cholesterol and other fats. A diminished quantity of bile acids here will result in precipitation of cholesterol. A high concentration of cholesterol in the presence of a normal bile acid concentration may also result in the precipitation of cholesterol. It was noted previously that obstruction may occur readily in the narrow cystic duct. The advantages of a dilute bile with sufficient bile acids and frequent evacuation of the gall bladder in order to avoid stagnation and excessive concentration are obvious.

Evacuation of the gall bladder is brought about by the contraction of the musculature of this organ and the relaxation of the sphincter of Oddi. The specific substance which initiates and maintains the contraction of the gall bladder is a hormone — cholecystokinin. This substance has been extracted from the duodenal mucosa in pure form by Ivy. When injected intravenously it neither affects the blood pressure nor stimulates gastric, pancreatic or intestinal secretion. This substance under normal circumstances is liberated in large amounts when fatty foods pass into the duodenum. The Graham-Cole method of the study of the gall bladder has made use of this prompt response of the gall bladder to the entrance of fatty foods into the duodenum.

Proteins have no direct effect on the evacuation of the gall bladder. However, they stimulate a prompt flow of acid gastric juice and the passage of a large amount of this juice into the duodenum results in the contraction of the gall bladder. Carbohydrates have no affect on the contraction of the gall bladder. It can be seen that of the three basic food substances, fats stimulate contraction of the gall bladder most readily, proteins to a variable extent, and carbohydrates not at all.

The importance of diet in gall bladder disease is considerable. In the presence of acute inflammation when rest for the organ is sought, a non-stimulating carbohydrate diet is most appropriate. The stagnation of bile in the normal or sluggish gall bladder can be obviated by the use of fat in the diet. This must be kept in mind in the case of obese individuals who have restricted their fat intake in an effort to lose weight. In pregnancy the gall bladder does not evacuate its contents well. The cause of this is not known, but stagnation of bile may readily result in precipitation of cholesterol with the formation of cholesterol stones. Individuals on a reduced diet and pregnant women must be given enough fat to stimulate contraction of the gall bladder. Some fats such as those found in egg yolk and cream are rich in cholesterol base. To avoid an increase in cholesterol it may be more desirable to use olive oil in the diet, since this substance does not form cholesterol.

Bile salts are formed in the liver from amino acids. Where there is a decrease in hepatic function or a reduction in protein dietary income, it may be necessary to supplement the inadequate quantity of hepatic bile salts and to increase the secretion of bile by the liver with oral administration of bile. Oxidized bile salts increase the quantity of bile output — hydrocholeresis — without increasing the concentration of bile salts.

Conjugated bile salts increase the flow of bile salts from the liver.

The maximum pressure that can be developed by the contraction of the gall bladder is approximately 25 cm. of bile pressure. Under ordinary circumstances this pressure does not develop in the gall bladder because of the relaxation of the sphincter of Oddi and the free passage of bile into the duodenum. The secretory pressure of the liver is approximately 30 cm. of bile pressure. In view of these pressure relations it is unlikely that a maximal contraction of the gall bladder could result in forcing bile into the liver sufficiently to suppress liver secretion.

When obstruction in the duct system is present, however, an increase in pressure of more than 10 cm. causes distention of the duct proximal to the obstruction. This may be associated with the development of pain. It appears that the cause of pain in noninflammatory gall bladder disease is distention in the organ or the related ducts due to spasm, stricture or calculous occlusion.

Duodenitis may also be the cause of pain in the biliary system. Contraction of the gall bladder and relaxation of the sphincter of Oddi usually occur simultaneously, but a spasm of the duodenal musculature will prevent the passage of bile into the duodenum. In many instances it is difficult to distinguish between disease of the gall bladder and disease of the duodenum. This is due to the intimate relation of the common duct, duodenum and sphincter of Oddi. Inflammatory changes in the duodenum which may precede or co-exist with duodenal ulcer may be associated with changes in the gall bladder and bile passage. In such cases correction of the duodenal disease may relieve the patient of the gall bladder disturbance.

Spasms of the sphincter of Oddi may produce a similar disturbance. These may be relieved by anti-spasmodic drugs such as amyl nitrite or glyceryl trinitrate which produce prompt relaxation. In the chronic cases, however, the use of nerve sedatives such as sodium bromide and phenobarbital in addition to tincture of belladonna, atropine or other similarly acting drugs may be of value in the prevention of spasm.

The gall bladder itself may be spastic and a sudden response to a stimulus for contraction may result in pain. Morphine produces an increase in tone of smooth muscle. In the presence of spastic obstruction large doses of morphine may increase pain by favoring contraction of the gall bladder and at the same time contraction of the duodenum. The use of small doses combined with atropine may help to avoid pain which is caused by spasm. In contrast to the spastic type of gall bladder the stimulus for contraction may occur without a prompt response. The atonic gall bladder favors stagnation by responding poorly to stimulation. Frequent feedings, including fat with the addition of bile salts, may improve the tone of the gall bladder and prevent stone formation.

Pathology. Inflammation of the gall bladder may be produced by infection or by a chemical (toxic) bile. Frequently it follows obstruction of the cystic duct. The inflammatory process may result in organic changes in the wall of the gall bladder. Decrease in the functional capacity of the gall bladder (its ability to concentrate) is related to the extent of damage to the mucous membrane. The decrease in the motor function of the gall bladder is related to the extent of damage to the musculature of the organ. When a gall bladder ceases to concentrate or expel bile its functional utility is destroyed. If infected, it remains as a focus for the maintenance of disease about the liver, pancreas and duodenum, or it may be the seat of neoplastic growth. A functionless gall bladder that produces recurrent acute symptoms is unlikely to improve on any type of medical management.

That infection does not account for all instances of chronic cholecystitis is shown by the failure of investigators to demonstrate bacteria in over 50 per cent of the cases.

Stone formation is related most commonly to infection or stagnation of bile in the gall bladder. While stones result from some pre-existing condition, they themselves initiate further changes in the gall bladder or ducts. In hemolytic jaundice large amounts of bilirubin are excreted by the liver. Frequently accumulations of pigment in the gall bladder result in stone formation. The demonstration of stones in the gall bladder in the presence of jaundice may be related to excessive blood destruction and this condition should be kept in mind in the diagnosis of gall bladder disease. Obstruction in the cystic duct over long periods of time favors infection.

This is accompanied by the secretion of calcium into the gall bladder. Calcium stones may form or the gall bladder may fill with a variable amount of debris and amorphous calcium deposits (milk of calcium gall bladder). Frequently bile pigment and cholesterol stones may be present in the gall bladder before infection occurs. Following infection calcium is deposited on the pre-existing stones, coating them so that they appear as opaque rings in the x-ray examination. Cholesterol stones may be solitary or multiple. They result from the precipitation of cholesterol in the presence of insufficient bile acids. Most stones in the gall bladder are of mixed types, but contain predominantly bile pigment, cholesterol or calcium.

Obstruction of the neck of the gall bladder by a large stone prevents the entrance of bile into the gall bladder. If no infection occurs, the gall bladder fills with a mucoid secretion from the neck and infundibulum. Gradual distention follows resulting in hydrops.

Stones are responsible in 90 per cent of the cases of acute infection. Empyema, perforation, gangrene, peritonitis, subphrenic abscess, cholecysto-duodenal fistula (at times followed by intestinal obstruction due to lodgement of a stone in the ileum) and other serious complications may result from calculous disease of the gall bladder. The disastrous effects of neglected gall stone disease in which symptoms are constantly recurring, warrants the removal of the diseased gall bladder as an elective operation. There are instances in which gall stones are found during the course of an examination for unrelated complaints. Many individuals have gall stones without symptoms. This must be considered in evaluating the total picture, since other diseased organs rather than the gall stones may be directly responsible for the symptoms.

SUMMARY AND COMMENT

Gall bladder disease is a blanket term used to cover many different types of changes in the gall bladder or related viscera. A differentiation must be made between disease due to organic changes and disease due to spasm or disturbances in adjacent or related viscera. The prevention of gall bladder disease is a subject that has not been given much attention. In view of the present information available, stagnation of bile, excessive concentration and cholesterol precipitation in the gall bladder may be prevented. A dilute bile flowing freely is least likely to result in obstruction. Proper treatment requires a thorough analysis of the patient's complaint, a complete physical examination and the employment of such laboratory facilities as will aid in evaluating not only the nature of the gall bladder disease but also the general health of the patient. The importance of changes in adjacent viscera and the complications incident to stones in the common duct have been mentioned but not discussed. The role surgery plays in treatment will be more successful when those conditions not associated with definite organic changes or stones are excluded. The elective removal of a diseased nonfunctioning gall bladder which has produced symptoms will avoid the disastrous results that follow treatment of the more severe types of gall bladder disease.

KAOLIN-ALUMINUM GEL (KALUM) IN THE THERAPY OF PEPTIC ULCER

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Gastroenterologists and practitioners in general are recognizing more clearly the protean nature of peptic ulcer both from the point of view of the symptom complex of the disease as well as from the manifold aspects of the treatment of the disease syndrome. The ideas of Sippy relative to the treatment of peptic ulcer dominated medical practice in the United States for at least a generation. Only in recent years have modifications been made in the orthodox Sippy management of peptic ulcer. This was due first to the recognition that certain harmful effects may result from the indiscriminate use of alkali powders; secondly, progressive clinicians realized that absolute or even relative neutralization of gastric acidity is not the sine qua non of the treatment of peptic ulcer. Psychogenic, social, economic, sexual and other problems in the causation of peptic ulcer are appreciated more and more and the amelioration of such problems is now recognized to be as important

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as the use of medicines in the treatment of ulcer. Furthermore, instead of the simple alkali therapy of a generation ago, a host of new therapeutic agents has become available for the treatment of peptic ulcer: various types of antacid powders, mucins, antispasmodics, alumina gels, etc. Most of these preparations singly or in combination have good therapeutic effects at one time or another in the majority of ulcer patients.

These newer pharmaceutical agents for the therapeusis of ulcer have come into vogue not so much because we have become cognizant of the dangers of alkalosis and the evils of the secondary rise of acid after administration of alkalis, but because it was thought possible to evolve better drugs than Sippy powders on which many cases of ulcer did not respond well either clinically or roentgenologically. One of the newer substances now gaining increasingly rapid popularity in the treatment of peptic ulcer has been the amphoteric alumina gels, which reduce gastric acidity by adsorption and neutralization. These substances adsorb many times their own volume of hydrochloric acid, cause no secondary rise in gastric acidity, are not absorbed to any appreciable extent and cause no alkalosis nor any material change in the electrolytic balance of the blood plasma. Crohn[1] of New York was first in this country to suggest the use of aluminum hydroxide gel for the therapy of peptic ulcer. Since then, the results on the use of such amphoteric gels in the treatment of peptic ulcer have been published repeatedly and several such compounds have attracted widespread use.

Investigators studying the neutralizing powers of various compounds in an attempt to determine the ideal drug for the treatment of peptic ulcer by acid neutralization usually come to divergent results. Thus, for example Kraemer[2] advocates the use of magnesium trisilicate as the ideal antacid, while Kirsner[3] found that calcium carbonate given frequently is the best antacid. On the other hand, a group of workers in New York[4] now advocate a preparation of alumina which has no direct powers of neutralization but acts entirely by adsorption. In contrast to these, Steigmann[5] found little variation in the acidity modification from the use of alkalis, alumina gels, or mucins. Thus as yet, no unanimity of opinion obtains as to what is the desideratum in ulcer therapy: neutralization, adsorption of pepsin and hydrochloric acid, etc. It is not within the scope of this paper to discuss the above question at length.

Even keeping in mind the aforementioned, the alumina compounds have proved effective agents in treatment of peptic ulcer. This may be due mainly to the fact that they act by adsorption rather than simply by neutralization, binding mineral acids as HCl firmly since the alumina acts as a weak base. Such alumina gels have a mild demulcent and astringent effect on the gastric and intestinal mucosa. Komarov and others[6] have shown that peptic activity is decreased or abolished by the oral administration of such compounds. Mechanical protection to a gastric or duodenal ulcer is very desirable and is in part furnished by such aluminum hydroxide compounds which tend to coat the inflamed, ulcerated area, and to protect it from the chemical effects of HCl and pepsin, these latter in turn being removed by the adsorptive properties of the gel. It now becomes obvious that such a therapeutic agent would be far more effective if this action could be enhanced, thus tending to protect the ulcer from further corrosion. Kaolin (aluminum silicate) has been used since antiquity as oral medication in cases of diarrhea, intestinal toxemias, etc. Mutch[7] has shown that when kaolin is properly prepared, it forms a stable colloidal suspension which has high adsorptive powers for toxins, which by its mechanical action envelops bacteria and other noxious agents and which has a high affinity of adhering to surfaces as the gastric and intestinal mucosa. The literature is replete with references to the use of kaolin in dysenteries, cholera, etc.[8, 9, 10]. However, unless the kaolin is properly purified and prepared, it will not remain in colloidal suspension but will settle out and clump and have no effect aside from that of obstruction as a bolus of clay. Mutch[7] discusses this point very thoroughly in a recent article and shows how kaolin can be prepared to remain in colloidal suspension. It occurred to workers after the advent of aluminum hydroxide therapy that a mixture of kaolin with alumina would enhance considerably its properties as a mechanical agent to protect gastro-intestinal ulcerations because of the powers of the kaolin

for adsorption and its coating, emolient effects. Swalm[11] used such a combination years ago and since then a number of other articles have appeared on the use of alumina-kaolin mixtures, particularly in the treatment of dysenteries, colitides, etc.[12, 13]. It is true that the presence of the alumina tends to prevent and delay this settling out of the kaolin, but just this occurs unless the kaolin is properly prepared as shown by Mutch.

Material and Procedure — A mixture of alumina and kaolin (Kalum) possessing the properties described above recently was brought to our attention for the treatment of peptic ulcer. Kalum is an amphoteric gel containing 5 per cent aluminum hydroxide and 3 per cent kaolin both in colloidal form flavored with oil of peppermint and freely miscible in water. The particle size is such that the compound adsorbs at least twelve times its volume of N/10 HCl in 30 minutes as measured by electrometric titration. The kaolin used is so prepared that it remains as a colloidal dispersion indefinitely and no settling out or clumping occurs upon standing.

This preliminary report is based upon our observations with the use of Kalum during the past eighteen months in the gastro-intestinal out-patient department (Fantus Clinic) of Cook County Hospital. Kalum was administered to twenty-five peptic ulcer patients in the out-patient department and to an equal number of cases with other gastro-intestinal diseases in the wards. In order to try the product under the severest conditions in cases of ulcer patients, we tested the effects of Kalum only on those ulcer patients who had not been responding to other forms of ulcer therapy used in our clinic: namely, other alumina preparations on the market, antacid powders, belladonna, sedatives, diet, etc. Many of these patients had suffered from peptic ulcer for long periods of time; various complications of ulcer were present in one or another patient. In other words, the subjects used for this study constituted a group of cases refractory to treatment. Thus, although the actual number of patients studied is not large, each one was carefully selected for the study. During the course of the study itself the patient was switched from Kalum to other ulcer medications and then back again to Kalum, etc., in order to determine the efficancy of the preparation more exactly.

The dosage of Kalum used varied from one to two teaspoonsful in a little water three times daily to as much as four teaspoonsful taken as often as every two hours during the day and as needed at night. Some patients used Kalum only for a period of several weeks whereas others used the drug either intermittently or steadily for many months during the course of this study.

Results — Fifteen patients out of the group of twenty-five cases of peptic ulcer were studied intensively. From the results on these, only certain general conclusions as to the therapeutic efficacy of this compound in the treatment of peptic ulcer can be drawn. Statistical analysis is of little value in such a small number of cases. Six of fifteen patients under prolonged and careful observation were markedly and quickly benefited by the oral administration of Kalum; pain, discomfort, and vomiting being relieved promptly. The nine remaining patients did indifferently on Kalum; only three of these cases, however, preferred some other form of therapy.

Two typical case histories are given briefly below to illustrate the response to Kalum in patients refractory to other ulcer therapies at the time.

Mr. A. Z., age 42, Cl. No. 41-12351. "Ulcer operation" in 1931. Was on drugs and diet for several months thereafter; well clinically for next two years. Has had intermittent recurrences of ulcers since 1933. Worse in past six months; 15 pounds loss of weight in past year. Pains especially at night, relieved by food or soda for a short time, but with no improvement in general condition. Had much epigastric distress (hunched over with hands on stomach, etc.) when started on Kalum-z II-III, 5-6 times per day and p.r.n. at night. X-ray study at this time revealed an active pre-pyloric ulcer. Improved promptly on Kalum, less pain and no vomiting. Put on special ulcer powders after one week but patient preferred Kalum. Did not do well when placed on several other commercial alumina preparations. Only constipated slightly by Kalum.

Mrs. E. C., age 29, Cl. No. 41-1408. Was in Cook County Hospital in December, 1940 because of tarry stools and weakness but no other symptoms. X-ray revealed an active duodenal ulcer. Began developing epigastric distress one month later despite regular ulcer treatment. Pain was relieved by milk but not by several alumina preparations or Sippy

powders. Presented a picture of acute ulcer syndrome at this time. Placed on Kalum-z II, 6 times per day and p.r.n. at night. Felt better from first day. Found Kalum less constipating than another alumina compound she had been using. For two months the patient was switched from one type of ulcer therapy to another but Kalum continued to give the best results. At present, six months later, patient is on diet only and well clinically.

DISCUSSION

We are fully aware that the number of cases of peptic ulcer used in this study is small and that only 40 per cent showed remarkable results, while 60 per cent responded with indifferent results. We were, however, very stringent in our criteria of choosing patients for clinical assay, and in such intractable ulcer cases any measure which offers some hope of relief is worth trying. Thus a figure of 40 per cent for successful results gains added significance. Were we simply to have taken the first one hundred cases of peptic ulcer at the Fantus Clinic and switched them from whatever therapy they may have been on to the use of Kalum, the percentage of good results unquestionably would have been higher. Actually, the cases selected for our study represent less than 5 per cent of the total number of ulcer patients attending our clinic.

From the results of our clinical trial with Kalum we feel justified in concluding that Kalum represents a new and valuable addition to the therapeutic armamentarium for treatment of peptic ulcer; because of the properties inherent in both kaolin and aluminum hydroxide gel, the proper combination of these two into a single preparation results in a therapeutic product which is superior to the usual alumina preparations for the treatment of ulcer. Kalum seems less constipating than other standard alumina preparations when used in moderate to large doses. In some cases where equal quantities were employed, the usual alumina preparation had a constipating effect whereas Kalum had none. In fact, a number of patients ascribed a mild laxative effect to the use of Kalum. This lack of constipating effect of Kalum may represent indirect proof that the kaolin-alumina mixture employed in this product does remain in a fine state of dispersion in its passage through most of the gastro-intestinal tract. Some of the newer alumina preparations appearing on the market contain magnesium trisilicate in order to combat the constipating effect of the alumina. Large amounts of such a mixture may have undesirable effects. Of course, sufficiently large doses of Kalum will have a constipating effect. In diarrheas, ulcerative colitis, etc., the beneficial effects of Kalum are probably due to adsorption.

We have mentioned the "sticking" qualities of both Kaolin and alumina. Animal experimentation[9] has demonstrated how well kaolin adheres to intestinal mucosa. One property of such a combination of alumina-kaolin is to coat the ulcerated areas of mucosa and thus afford a direct physical barrier to noxious agents, irritants, etc. Another step in a study such as ours would be to select a series of active gastric ulcers as demonstrated by direct endoscopic examination and observe the adhering qualities of various ulcer drugs by subsequent gastroscopic examinations.

Kalum is not unpalatable when taken orally even in moderately large doses and this matter of palatability may play an important role in the therapeusis of certain ulcer cases. Such subjective likes and dislikes to medication must be taken into consideration very often and particularly in ulcer patients. The small amount of oil of peppermint makes administration pleasant and may even contribute to the therapeutic effect.[14]

We realize that Kalum is no panacea for all ulcer cases; however, there is no known treatment which will cure every peptic ulcer patient. In view of our good results with such a mixture of aluminum hydroxide and kaolin in a rather limited number of cases of intractable ulcer we believe Kalum of sufficient value to warrant wider clinical trial. This substance represents a simple and useful therapeutic adjuvant in such cases.

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THE TUBERCULOSIS OBSTETRIC PATIENT

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With the increase noted in the incidence of tuberculosis throughout the United States and the change of emphasis due to war time conditions it is of value to review some of the common problems presented by the pregnant tuberculosis patient.

The question of procedure in a given case involving the complication of pregnancy and tuberculosis needs the closest co-operation and study, not only by those who practice the treatment of tuberculosis, but by obstetricians and internists, to the end that the lives of the mothers may be preserved, their health conserved, and the lives of a large number of infants saved.

The conclusions reached by reading articles in the medical journals on the subject published in the past thirty years, both from general practitioners and specialists, has shown a wide divergence of opinion, seemingly supported by statistics of the observers, as to the effect of pregnancy on tuberculosis and as to the proper precedure to be followed when the two conditions under consideration are present. In the past some eminent men have leaned toward an active attitude, favoring interference by abortion in all cases of tuberculosis of the lungs, regardless of the type of disease, while others, equally eminent, felt that the risk of pregnancy for a tuberculosis woman is no greater, if properly treated, than for the non-tuberculosis pregnant patient.

With the progress of collapse therapy and early diagnosis the pessimism at times expressed is not as fully warranted as in the past and the harm that might have befallen these patients has been averted. There is no doubt that the gloomy picture displayed in the literature of both medicine and obstetrics of a decade ago and the statistics which supported this gloomy picture belongs in the past era when cases of tuberculosis and obstetrics were both conducted on the mismanaged techniques which have given place to the modern enlightened methods now used in both types of cases. Collapse therapy, adequate sanatorium management, local anesthesia, caesarian section, and better management of practically all the possible complications of pregnancy have changed the entire viewpoint in the tuberculous obstetric patient in the same relation it has improved our handling of cases when not combined. Intelligent cooperative management based on a common understanding of the underlying pathology and therapeutic rationale by the internist and the obstetrician gives us a solid foundation on which the successful management of these cases should rest.

The probable influence of the other complicating factor must be evaluated by the internist and obstetrician with regard to their probable influence on the tuberculous disease of the patient and on the pregnancy. A decision to permit the pregnancy to continue to delivery or to recommend its termination should be made only after all the factors of the given case have been given proper study, considering the disease, the mother, the child and the many other factors involved. When all these factors are given their proper values it will rarely be found necessary to terminate pregnancy if the patient can be provided with the proper facilities to control the disease during gestation, insure a proper delivery and provide adequate postpartum care. This may mean continuous observation and treatment by a physician specially trained in the management of tuberculosis pa-

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tients and should, preferably at least, mean sanitarium treatment or its equivalent for a longer or shorter period during and immediately after pregnancy. It may have to include premature delivery of the baby, termination of the pregnancy just before viability of the baby, or even the performance of a therapeutic abortion. The seriousness of the pregnancy to the mother is relatively small if these therapeutic measures can successfully be carried out, and, given good hospital care, skillful surgery and with local anesthesia at a properly selected time the risk is minimal and well worth assumption to insure a much wanted offspring.

Once pregnancy is diagnosed in the tuberculous woman or tuberculosis in the pregnant woman there need be no serious concern or panicky procedure, but the case should be carefully studied by the internist to determine the type, extent, and probable course of the disease in the immediate future, and by the obstetrician who must calculate the possibilities of the complications that might put excessive strain on the mother due to the continuance of the pregnancy and the ensuing labor.

The treatment of tuberculosis when pregnancy occurs should not be interrupted by the pregnancy. Pregnancy proceeding to successful delivery and recovery while the lung remains collapsed under artificial pneumothorax, phrenic interruption, or even thorocaplasty is by no means unusual today. A recurrence developing after delivery takes place in only a few properly managed cases.

The avoidance of pregnancy is the most important primary consideration for patient and physician. No woman who has active tuberculosis should consider pregnancy for at least two years after complete arrest of her tuberculosis or even longer if the treatment required to heal the lesion was difficult, or if there is even the slightest doubt in the mind of her physician. The diagnosis of tuberculosis arrest must be based on a very careful study of the entire progress of the case and must not be arrived at casually. Also, every available diagnostic aid must be used, resolving any doubt against a pregnancy. Many tuberculosis patients appear to improve throughout pregnancy, only to show a decided tendency toward aggravation of a mild lesion or activation of a dormant tuberculosis the first few months after delivery. This type of case is especially hard to prognosticate and should be sufficient reason alone for a reserved attitude toward allowing a pregnancy.

However, with a better and more intelligent understanding of the problem of each individual case on the part of the tuberculosis specialist and the obstetrician, the pregnant tuberculosis patient may emerge from her pregnancy experience (once looked upon as a most dangerous and unjustifiable happening) almost, if not quite as safely as the non-tuberculosis obstetric patient. We can only require of these patients the same requirement imposed on all obstetric patients — that the general condition of the patient shall be such that she can endure the changed bodily functions incident to her condition and have a competence of her organs to carry to a successful conclusion thru the stresses of delivery and the postpartum period.

Therefore when matrimony is contemplated by a tuberculous woman a very careful study should be made by her physician before allowing the possibility of pregnancy, to be sure that her condition will allow a reasonable chance that her chest lesions will remain quiescent, that she can stand a labor, normal or modified, and that satisfactory supervision and treatment can be provided. On such a complete study alone can be based a recommendation for or against marriage and in some cases the type of tuberculosis together with the nature of and severity of the lesions in other organs, may indicate postponement of marriage until these disabilities are eliminated.

Sterilization should be considered in cases where a slowly healing chest lesion is present, where a longer period than is deemed convenient must elapse before the marriage or where there is uncertainty as to the outcome of the healing of the chest condition. This can be done thru a small incision in the abdomen under local anesthesia, the tubes ligated, and the incision closed with no shock and practically no danger to the patient. In younger women and in those whose tuberculosis is of such a nature that the indication for sterilization is less obvious, contraceptive advice including the proper fitting of a diaphragm is the procedure of choice.

The adoption of a universal practice of tuberculin testing of all pregnant women, early

in the pregnancy, with X-raying of the reactors for active tuberculosis should be encouraged, and as voluntary tuberculin testing becomes more universal the solution of the problem of the tuberculous obstetric patient will be simplified when all known cases of tuberculosis infection will be recorded and all cases found in the early stages where adequate treatment can do most.

Early cases of tuberculosis usually do not offer a serious problem to the consultant when pregnancy complicates the picture. However, sometimes it is difficult to decide whether pregnancy has ensued. Tuberculosis may interfere with normal menstruation so that the sudden cessation of the menstrual flow in a woman previously regular may not have the same diagnostic value as it would have in a woman free from tuberculosis. Consideration must be given to other presumptive signs of pregnancy, such as breast changes, discoloration of the vaginal and cervical mucosa, dermal pigmentation and gastro-intestinal phenomena. The Friedman test and other reliable tests may have to be employed to determine the true diagnosis.

If and when the diagnosis of pregnancy in the tuberculous woman or the diagnosis of tuberculosis in the pregnant woman has been made the course of action must depend upon a consultation between the obstetrician and the internist. The study on the part of the obstetrician should indicate whether or not the evidence indicates a long difficult labor, a pregnancy complicated by serious depletion from nausea and vomiting, whether other serious damage to essential organs is present or expected later, and any other factors depleting the patients system. It should give information as to the dangers and difficulty of interrupting pregnancy under conditions present and the method suited to the case if decided upon. If pregnancy is carried forward to a viable child, he will have to decide when and how labor is to be induced, and forsee the obstetrical complications as they arise and direct their management. This information will allow the internist to judge the probable effect of the strain of pregnancy and delivery on the pulmonary lesion and make it possible to guard against advance of the disease. Thru such a plan of consultation and with the help of collapse therapy, intensive and prolonged sanatorium care the incidence and danger of tuberculosis in the obstetric patient has been greatly reduced and many fetal lives that previously would have been sacrificed by therapeutic abortion to save the mothers will be saved.

The age of the patient, the stage of the disease, and the type of lesion have a distinct bearing on the prognosis. The treatment would be quite different in a patient with a chronic fibroid or cavitation type of disease, with only a short expectancy of life, than it would be in a young woman in early pregnancy with a very active or infiltrating lesion. It has been repeatedly stated that tuberculous women may enjoy a temporary remission of the disease during pregnancy, only to relapse with increased activity after parturition.

If pregnancy has taken place in a tuberculous woman, there are two courses that can be followed, requiring the closest study and keenest judgment for a decision as to the proper course treatment must pursue. One is to interrupt the pregnancy, then devote all and every modern method to cure her. When the cure of her tuberculosis is complete, then and then only, let her bear children. The other is to immediately place the patient in a tuberculosis sanatorium for observation, from six weeks to three months. (It is better to interfere too soon than too late.) If improvement is satisfactory, the lesion is found to be minimal, and the sedimentation test satisfactory, the case may be allowed to go on, using collapse therapy and all other means indicated to control the tuberculosis. If the tuberculous condition grows worse, interruption of pregnancy is indicated immediately, preferably before the end of the second month, followed by active tuberculosis therapy.

The secondary question, to decide in the presence of tuberculosis and pregnancy can be stated thus: Is therapeutic abortion justified in tuberculosis? After reading the voluminous articles and reports of innumerable investigators, the widely divergent views of the writers seem irreconcilable, but on careful study the general principles that apply become very simple — more simple than trying to reduce them to print.

In some cases, abortion acts as a stimulus to the chest lesion, and non-interference is preferable, especially if it is felt after careful ob-

servation that abortion will mean death for both mother and child, while allowing progress of the pregnancy may mean death of the mother, thus sacrificing every thing for a live child. Early induction of labor and forceps delivery may be indicated. With collapse therapy, even these apparently hopeless cases can often be carried through normal pregnancy and delivery, treatment being continued after delivery. By doing phrenectomy or phrenic crushing and using greater than usual pressure by pneumothorax, and, in selected cases, holding the diaphragm by use of pneumoperitoneum after delivery, the prognosis is materially improved. The efficiency of collapse therapy may limit the indications for therapeutic abortion in this type of case.

It may be stated as a general rule, however, that in most cases of tuberculosis, it is best to remove the pregnancy and let the woman have all her facilities for conquering the tuberculosis. Then, after the danger from tuberculosis is past, let her produce the offspring she desires. In other cases, as stated above, a rather large group becoming larger as a result of early diagnosis and collapse therapy, and selected by careful observation, with the patient constantly under good sanatorium treatment we may preserve the fetus, and therapeutic abortion may be withheld. Artificial pneumothorax often brings an active lesion under control and pregnancy may proceed without complication. Moreover, if the lesion is well collapsed, it is not usually necessary to separate the mother and infant after delivery to prevent infection of the infant from the mother.

In none of these cases should lactation be permitted, as it increases the hazard for the mother by using her recuperative and healing powers for the production of milk. If it is an open case, protection of the infant from infection is imperative.

When pregnancy has advanced to the fifth or sixth month before the tuberculosis is recognized as a factor in the case it is best to allow pregnancy to continue at least until the 32nd week and it may then be terminated by induction of labor or caesarian section.

The time for intervention, when decided upon, is not always easy to determine and depends upon how well the mother is able to compensate for the additional strain of the later months of pregnancy. The longer the fetus can remain in the uterus with safety to the mother, the better its chances for living. Falls states that it might be naturally supposed because of the absence of all trauma that there should be no danger to the fetus in Caesarian section and states that such is not the case. In a fairly high percentage of cases there occurs following delivery of an apparently lusty baby a gradually progressing weakening of respiration with blue spells and finally death. Autopsy in these cases shows a marked atalectasis which so far has not been explained. The more premature the baby, the greater the danger of this complication.

If a woman with far advanced tuberculosis is found to be pregnant and wishes to risk all for a living child, she should be allowed to do so in the interest of the fetus, since the prognosis for the mother is frequently poor, irrespective of the pregnancy. Pregnancy does constitute a serious drain on the tuberculous mother. The fact that she gains weight and looks better during pregnancy is misleading to the clinician and constitutes one of the most puzzling phenomena in clinical medicine. There is something that carries the chronically ill and doomed woman thru pregnancy until her function with regard to propagation of the species has been fulfilled and then allows her to die, sometimes quickly. Had this phenomenon not been observed in the woman with cancer, diabetes and pernicious anemia, I would be inclined to believe that in the case of tuberculosis it is due to elevation of the diaphragm and a gradually increasing partial collapse effect of the pregnant uterus. The rapid invasion of the disease shortly after delivery could certainly be explained by the sudden relief of the pressure allowing the lung to expand. This, then, suggests a definite indication for collapse therapy in the first few hours or days after delivery of the active, tubèrculous woman who goes to or near full term pregnancy.

The technique of delivering the tuberculous woman is one that must be carefully decided upon after close study of the individual case. A woman with a closed quiescent chest lesion who has had adequate care during pregnancy may

be handled during labor as any other pregnant woman. Gas anesthesia is preferred to ether to avoid the irrating effects of the latter agent. If the second stage of labor exceeds an hour, a forceps delivery is indicated to avoid un-necessary pain, exertion and exhaustion. A local block of the perineum with a local anesthetic may be used to relax the outlet, allowing delivery, spontaneous or instrumental with the least general anesthetic and allow post delivery repair without further general anesthetic.

Conservation of blood loss is to be encouraged so as to allow all possible help to the patient to battle her tuberculosis and a supplemental blood transfusion may be indicated in some cases. Frequent blood counts to check hemoglobin and red counts for anemia during pregnancy may indicate therapy and may disclose an indication before delivery for a transfusion so that suitable donors may be on hand in case of post partum or pulmonary hemorrhage. The danger of even a small blood loss during labor in these anemia cases deserves serious consideration, since under the circumstances a 200 or 300 c. c. blood loss which ordinarily could be lost without danger may prove rapidly fatal.

Briefly, the principles to be followed in the tuberculous obstetric patient can be stated in the following items.

First, no one has shown definitely that pregnancy is good for the health of a tuberculous woman in any type or stage of tuberculosis. A neutral effect of pregnancy on a tuberculous lesion is not asked — the risks are too great.

Second, most investigators, easily 75%, believe that pregnancy can or does aggravate tuberculosis, while no one has proven that abortion properly performed early will aggravate an early or arrested lesion, if proper tuberculosis therapy is followed afterwards.

Third, every one admits that pregnancy places a severe strain on a tuberculous woman's resources and strength, and that labor is fraught with immediate and remote perils not present in a normal woman.

Fourth, after labor or abortion, treatment for the chest condition should be carried on vigorously, treatment must be continued over sufficient time to guarantee arrest and should not be discontinued too early, in any event, only after careful observation and study by an experienced phthisiotherapist. Subsequent pregnancies should be allowed only after careful study of the case has shown the chest lesion to be completely arrested or under complete control.

Sixth, if therapeutic abortion is decided upon it should be done as early as possible, with spinal or gas anesthesia, and a technique adopted to ensue as rapid fetal delivery as possible.

Seventh, after the fourth month of gestation the effect of intervention is comparable to a full term delivery and with proper collateral care in cases that have not shown up exacerbation earlier, the risk can be safely assumed, the obstetrician being ready to interfere as soon as labor starts, so as to terminate it rapidly, as by forceps, sparing the patient the stress of inhalation anesthetics. In selected cases labor may be induced after the thirty-second week.

Eighth, the best prognosis for mother and child in any case depends on the close cooperation between the obstetrician and phthisiologist, with a careful evaluation of the chest lesion and the obstetrical problems involved to insure the individulization of the treatments for each case of pregnancy in the tuberculous patient.

DISCUSSION

C. Wesley Eisele, M. D. (Chicago): Mr. Chairman, Ladies and Gentlemen: I have listened with keen interest to Dr. Meixner's presentation of his concepts of the problem of tuberculosis in pregnancy, and with the principles which he has laid down I am in hearty agreement.

There is still controversy concerning the effect of pregnancy upon the course of tuberculosis. This problem is notoriously difficult to submit to statistical analysis but it has been our experience at the University of Chicago Clinics that the effects of pregnancy are predominantly bad; on theoretical grounds the physiological and pathological changes that occur in pregnancy are all bad with one possible exception. I speak of the elevation of the diaphragm that occurs in the last half of pregnancy. For many years this has been considered as a possible benefit to the tuberculous patient by giving a form of collapse therapy, but recent investigation has shown that this is not so. The elevated diaphragm of pregnancy moves about as much as a normal diaphragm. That is, the respiratory excursion is not decreased and may possibly be increased, and the lung is not given the rest we had formerly supposed. The elevated diaphragm of pregnancy is therefore not comparable to the high immobile diaphragm of phrenic nerve interruption.

Entirely aside from the biologic effects of pregnancy upon tuberculosis, there is another deleterious effect which is very real and very practical. I speak of the physical and emotional strain which is involved in the rearing of a new-born infant. This is particularly marked in those homes which cannot afford to hire adequate household help, but even under the best of conditions the strain is considerable. All too often the health of even normal mothers is endangered.

Because of these considerations, I agree with Dr. Meixner that a tuberculous woman should not become pregnant if the tuberculosis has been active within relatively recent years. When the tuberculous woman does become pregnant, however, she does require the very best medical care obtainable, both from the obstetrician and the internist.

I would like to enter a plea to the pregnant tuberculous woman whose tuberculosis is not suspected. Dr. Meixner touched upon this subject and I would like to elaborate it very briefly. This problem is certainly much more widespread and serious than is generally realized. It has become a well-known fact that dependence upon symptoms and upon the presence of abnormal physical findings is frequently quite inadequate in detecting pulmonary tuberculosis. In many cases the disease is far advanced before any symptoms are produced, and it is indeed the exceptional case in which minimal lesions produce notable symptoms. I believe it is significant that more than 80 per cent of all cases of tuberculosis which are reported to Health Departments are already in an advanced stage of the disease.

The dependence upon even the most skilled physical examination has likewise come to be regarded as fraught with many pitfalls in detecting pulmonary tuberculosis.

I would like to cite just one case from the growing literature, — the work of Sampson and Brown at Trudeau Sanitarium. These investigators carefully examined over a thousand patients with tuberculosis and in 40 per cent of them there were no physical signs indicating the presence of the disease. In an additional 36 per cent, the physical signs indicated far less disease than was actually present as shown by the roentgenograms.

Because of these considerations, in 1934 we inaugurated a routine chest fluoroscopic survey among the prenatal patients at Chicago Lying-in Hospital. All patients attending the prenatal clinic were invited to attend the chest clinic for a fluoroscopy of their chest without charge, and those found to have definite or suspected lesions were referred for a stereoscopic chest films. We have recently summarized the data from this survey and found that of the nearly 11,000 patients examined, 1 per cent were found to have unsuspected tuberculosis of clinical importance. Of these, about two-thirds were found to be active.

During the period of the survey, — about seven years, — there were 15,000 patients attending the prenatal clinic, about 11,000 of whom reported for chest fluoroscopy. During the first four years, when they had to go to the chest clinic, only two-thirds of the patients appeared for the chest examination. At present we have a fluoroscopic room in the prenatal clinic and we are now getting 100 per cent of the patients.

Of these 11,000 patients fluoroscoped, a total of 110 cases of unsuspected tuberculosis of clinical importance were discovered by routine fluoroscopy — 74 per cent were found to be active, 36 per cent inactive.

As a comparison with another important problem in pregnant women, we summarized the number of cases of unsuspected syphilis discovered by routine Wassermann and Kahn tests in these same patients during the same period. In the 15,000 patients there were 82 cases, giving an incidence of .54 per cent of unsuspected syphilis, which is just about one-half the incidence of unsuspected tuberculosis.

What is the significance of discovering that 1 per cent of our pregnant women have tuberculosis? As a means of evaluating this, we collected the published reports, and in a few cases the personal communications, of the incidence of tuberculosis in obstetric patients from eight institutions in which special case finding methods were not employed. In the aggregate, 82,472 obstetric patients, there were fifty-five cases of pulmonary tuberculosis known, — an incidence of .067 per cent. The highest incidence was .14 per cent.

For ready comparison I put the data of our fluoroscopic survey here and, as you see, the incidence of .96 per cent, our total tuberculosis, was fifteen times as great as our unsuspected tuberculosis. It was even more striking that the active tuberculosis which we discovered was ten times as great as that known in these 82,000 obstetric patients. From this I believe it is a reasonable deduction that unless some roentgenologic or other special case finding method is employed, we are missing 90 per cent of all active tuberculosis.

In 1937 the Illinois Hygienic Marriage Law became effective. We were interested to see if that had any effect upon the incidence of syphilis. We divided our data into two periods, — before 1937 and after 1937, — for unsuspected tuberculosis and for unsuspected syphilis. In these two periods the incidence of unsuspected tuberculosis remains essentially the same, — 1.06 per cent whereas the incidence of unsuspected syphilis fell down from .87 per cent down to .3 per cent, a decline to almost one-third of the former level.

With such very gratifying results occcurring from mass survey methods in syphilis, I believe we could expect equally satisfying results to accrue in mass case-finding surveys for pulmonary tuberculosis.

In conclusion, I would like to remind this audience that although tuberculosis has moved from first place to seventh place as the cause of death in the general

population, in the age-sex group of young adult females which includes the child-bearing period, tuberculosis is still first as the cause of death. Tuberculosis accounts for about 20 per cent of all the deaths in this group. This is twice the incidence of deaths from all pueperal causes.

Dr. John Joseph Gill, (Chicago): I would like to congratulate the doctor on his essay. I am quite sure that I agree with every statement which he has made, therapeutic abortion is seldom indicated.

Dr. Fred M. Meixner, (Peoria): There are two points I want to again stress. First, every case must be individualized. There is no routine chart that you can put up and treat every case by that chart. You will have to individualize each particular case.

The second thing is to again emphasize the need for tuberculin testing of every woman who is pregnant in our maternity centers, doctors' offices and everywhere, to find these unsuspected cases of tuberculosis.

We now have a new Director of the Division of Tuberculosis in the Health Department in the State of Illinois and we expect to make it possible to find where tuberculosis still exists in the State and thus will uncover a great many cases of tuberculosis among pregnant women and mean a more intelligent follow-up of the pregnant tuberculous woman.

Again I want to thank the Section for the opportunity of appearing on the program.

PSYCHOTHERAPY IN GENERAL MEDICINE AND SURGERY

TOM BENTLEY THROCKMORTON, B. SC., M.D., F.A.C.P.

DES MOINES

From time immemorial mankind has practiced the healing art. Excavations of aged ruins have brought to light undoubted objective evidence of this fact as is indicated by the finding of crude instruments and other apparatus which were used in the practice of medicine and surgery by the progenitors of our profession. The use of metallic tractors, the laying on of hands, the blessing of the handerchief, the beating of the tom-tom by the Indian medicine man are all matters of historic record as means used by some individuals, in the rather near past, for the prevention and cure of disease. The great doctrine of Christian Science was inaugurated and developed during our time. It had its origin in the fertile brain of Mary Baker Eddy, and, since her demise, its teachings have continued to flow and overflow upon thousands and thousands of her disciples and followers. As a physician, I have no personal quarrel with Christian Science per se. Undoubtedly the work of this particular church has done a great service to many individuals who, distraught in soul and mind and body, yearned for some sympathetic hand to guide them and for some attentive ear into which they could pour their imaginary troubles. But I always have felt that the name — Christian Science — was a misnomer and that the Church Scientist paraded under false colors. Certainly it has no legitimate right to imply that its religion is both christian and scientific. Years ago I was impressed with the reasoning of the noted fictitious Irish character, Mr. Hennessy, when he debated the relative merits and demerits of Scientific Medicine versus Christian Science with his fictitious friend, Mr. Dooley. After arguing the subject back and forth all the way from Dan to Beer-sheba — and apparently getting no place as far as verbal pyrotechnics were concerned — Mr. Hennessy gave a Parthian thrust to his opponent, Dooley, when he said, "And I say, Dooley, if the Christian Scientists had a little more science and the doctors had a little more christianity, it wouldn't make very much difference which one ye employed so long as ye had a good nurse." It cannot successfully be denied that Christian Science is but a form of psychotherapy emanating from the Mother Church in Boston. As medical men we should have no quarrel with its devotees save only when an attempt is made by some ardent adherent to interfere with public health measures or where a life is jeopardized because some person is unwilling to admit that disease or illness is due to anything other than a mental error. I have no doubt that indifference on the part of the medical profession to complaining mankind is largely responsible for many individuals seeking solace through the Church Scientist. We, as physicians, have not performed our entire duty when we inform a patient that he has no organic disease by which to explain his various somatic symptoms, and so dismiss him with a curt wave of the hand. When we do this we fail to realize the great influence which mind has over matter. We fail

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to grasp the all significant fact that such a patient is mentally sick and that his bodily symptoms are but the reflection of an emotional instability. We never should antagonize the psychoneurotic patient by arguing with him. All too well is he convinced that his bodily complaints are the result of some underlying disease, else why should he have symptoms! Years ago, Dr. S. Weir Mitchell revolutionized the treatment of this type of patient by means of his world famed "rest cure." Mitchell realized the one thing which his contemporaries had failed to recognize — namely, that illness, be it of mind or body, is due largely to two factors, undernourishment and fatigue. He was the first to apply full feeding and rest to the individual who was the possessor of an overworked and under-nourished body and whose mind, often, was filled with fears which were reflected unfavorably on the physiologic function of various organs of the body. His book "Fat and Blood" sprang from his experience with a great group of patients in which he saw their fears, doubts, worries and anxieties disappear when their bodies were freed from fatigue and their nerve and muscle energy once again was restored to normal. But I am sure that Mitchell would have failed, just as others had failed before him, had he stopped with the application of his treatment to the physical. His keen insight into human nature — his realization of the action of mind over matter — drew him a step forward and saved him from the same pitfall into which other clinicians had fallen. Here he showed his shrewdness by applying himself as a therapeutic agent. His personality, his ability to make a patient do what others were unable to make him do, his talent to literally take possession of his patient and dominate his every activity — whether it was mental or physical — were the secrets of his success and were the means which enabled him to get results with his rest treatment where others had failed. Psychotherapy — properly applied — was a very decisive therapeutic means in his hands. True it is that Mitchell often resorted to methods of cure which were heroic to say the least. Some years ago, Dr. Beverly R. Tucker, of Richmond, Virginia — an old extern of the Philadelphia Orthopaedic Hospital and Infirmary for Nervous Diseases, an institution made world famous by Mitchell and his co-workers — related to me a story which well illustrates the diagnostic and therapeutic acumen of this noted physician. It appears that a lady of means had been confined to her bed in Johns Hopkins Hospital on account of a paralytic condition. The attending physician had been unable to do much for her. Finally, in desperation, the counsel of the noted Philadelphia physician was sought. Accordingly, Dr. Mitchell made the trip to Baltimore. He entered the sick room in company with the local doctor, house physician and nurse. After going over the case history and listening to the patient's story, supplemented by a rather cursory physical examination, the consultant asked the physicians and nurse to retire from the room. Shortly afterward the good doctor joined the others in the corridor of the hospital. As the group started to stroll down the hallway their progress suddenly was stopped as a scream came from the room only to be followed quickly by the appearance of smoke emerging from the open transom. Almost simultaneously the door flew open and the heretofore bedridden patient, crying hysterically, rushed from the smoke filled room. Dr. Mitchell, in his uncanny way, had sized up the situation almost at a glance. Recognizing the paralysis as a functional rather than an orgnic one, he deliberately had set fire to the bed clothes and then had left the room. The result was so miraculous, and the cure so spontaneous, that the room became known as the "cure room." Needless to state, I doubt if any physician today would have the audacity to duplicate Weir Mitchell's applied therapy even if he knew he was dealing with a case of hysterical paralysis. It does show, however, that the good doctor resorted to psychotherapy and that he used it as a therapeutic agent in more ways than one.

Several years ago this country was taken by storm with an old kind of psychotherapy clothed in up-to-date and stream-lined garments. Professor Coue, of France, was the originator of the new cure which was heralded in this country from coast to coast and from Canada to the Gulf of Mexico. "Day by day — in every way — I am getting better and better," was the simple prescription of this erstwhile apothecary of France. Thousands of peo-

ple listened to his lectures and many proclaimed the benefits of his remarkable formula as they gladly deposited their good American dollars in his coffers. Any physician knows that the symptoms of organic disease cannot be glibly chanted away by the repetition of mere words. Aside from Divine miracles, the dead no longer rise and the voice, once stilled, is forever silent except it be reproduced through the medium of the phonograph. And yet, Coue, with the magnetism of his personality and a set phraseology, literally helped thousands of psychoneurotic individuals by improving their mental hygiene. Of course, the professor went over big because he moved continually to fresher and greener pastures. A new broom always sweeps clean providing the one who uses it applies the proper amount of energy to the handle.

Now, what is psychotherapy? Is it something new, or is it something that only physicians who are interested in matters pertaining to the mind, use and understand? As a matter of fact, psychotherapy is used, consciously or unconsciously, by every physician. Every good doctor is a psychotherapist, believe it or not. In the art of medicine, the basic element is the psychologic insight into the patient's mentality. This is of great fundamental importance. Consequently, no physician today can practice successfully without knowing something of the new psychoanalytic approach or of psychiatry, since a large number of diseases of modern man belong to that great class called neuroses. This has well been emphasized by the late Dr. David Riesman in his book, "Medicine in Modern Society." "The laity and many physicians as well," states Dr. Riesman, "think of neurosis as something by itself, as apart from organic disease. It is true, nevertheless, that a neurotic element is present in many organic diseases and nearly constantly in those of chronic nature. The majority of civilized human beings are, at one time or another, a prey to neuroses, to those disturbances that cannot be discovered by ordinary methods of diagnosis, by means of instruments of precision, but are revealed to the physician by his understanding of human nature *and to the patient by his own self-analysis aided,* it may be, by the guidance of a psychically minded doctor."

As I understand, psychotherapy is the scientific control of mind of one individual by another in matters pertaining to health — in overcoming the mental mechanitions of another who thinks he is ill of a disability which exists only in his mental sphere. In practically every case, in which disability exists, physical and psychic elements are present in a greater or lesser degree. Neurotic or psychogenic symptoms are, not infrequently, in the foreground. It is up to the physician to ascertain, if possible, to what extent the symptoms of such a patient are physical and to what extent are mental. The sooner the physician learns to treat his patient as an individual rather than to treat a disease, the sooner his efforts will be crowned with success. The physician who never has been a patient, who never has been seriously ill, who never has undergone a major operation, who never has seen death stare him in the face — no matter how kindly, how consicentiously, how sympathetically he treats his patients — still lacks that understanding of the human mind which has been broadened and chastened by such grave experiences. This is well illustrated in the case of a surgeon who always had enjoyed excellent health. Nature had endowed him with a magnificent physique. No amount of work seemed to fatigue him, either mentally or physically. While he was kind at heart, yet he was prone to feel at times that patients made unnecessary complaints about physical discomforts which he believed to be trivial. Stricken in later years with an incurable malady, himself a patient on the operating table, obliged to drink from the cup whose contents were tinctured with physical pain and mental anguish, he confessed to me that never before had he understood the viewpoint of his patients. Though always he had tried to be considerate of others, his great regret was that he had not had the experience he then was undergoing. I long have felt that if it were possible for everyone, who practiced the healing art, to have experienced some of the bitterness of human suffering and mental misery, he would become, automatically and instinctively, a better physician. Perhaps in that event, some surgeons would not be so prone to belittle the patient's *fear of the antiphlogistic touch of the aseptic* scalpel. Neither would the physician so blithely and garrulously relate, before his patient, the

dangers connected with his illness or enlarge upon the complications which at times develop in the course of his disease. He who understands his patient because he has undergone a similar experience, is a more sympathetic and understanding man of medicine. He who has taken literally and put into practice the Golden Rule — "do unto others as ye would that they should do unto you" — is the true physician.

I already have spoken of the rôle which fatigue and ill-nourishment play in the production of disease. There also are other factors which have a distinct bearing on the physical and mental welfare of individuals. I refer to the social, the religious and the economic problems with which people are confronted. I am sure that one of the great questions which so often is overlooked by the physician — and one which is productive of so much worrying and complaining on the part of the patient — is whether a given individual is properly integrated to his environment. That is to say, is the patient happy in his home surroundings? Is he satisfied with the conditions under which he works? Has he religious worries which prey upon his mind? Has he adjusted himself to the social fabric in which he lives? Has he economic problems — real or imaginary — which harass his thoughts by day and make for sleepless hours by night? Unless these problems can be solved, or the patient can be taught to adjust himself to circumstances over which he has no control, no amount of medicine or surgery will relieve him or cure him of his complaints, be they physical or mental in origin. Many a neurotic woman has undergone a surgical operation because she was told by her surgeon that her complaints would no longer exist after he had skillfully restored her anatomy to what it was before she got what she then had. True it is that the surgeon, arrayed in blood-stained gown and rubber-gloved hands, makes a deep impression on the relatives and friends of the patient as he explains to them the intricacies of the operation while they stand in the corridor outside of the operating room. He knows full well that his remarks will be conveyed in due time to the patient who has just been wheeled to her room. True it is that the patient feels much better — following her post-nausea and post-enema days — as she convalesces from her trying ordeal. And why should not she feel better? Why should not her complaints disappear as do ships that sail into the night? Has she not been assured that she again would be well? Have not the family, relatives, friends and neighbors showered sympathy upon her and deluged her with flowers and gifts? In many instances the psychotherapy thus used — consciously or unconsciously, together with properly called for and properly executed surgery — does restore the patient to lasting health. On the other hand, he who overlooks the fact that symptoms referred to the physical but emanating from the mental sphere are not to be permanently helped by surgery or medicine is doomed to share a disappointment which is almost certain to come to the patient. Attempts to alleviate such symptoms by surgical procedures, or by shotgun prescriptions, invariably fail.

Now, I would not have you believe that the surgeon is the only one in our profession who has erred at times in his attempt to relieve a physical complaint when the causal factor was strictly a mental one. The physician has been just as prone to commit such errors, although it is true that the psychic reaction attendant on an operation is far greater than that which results from a bedside conference between patient and physician. To that extent the surgeon has the advantage over his medical confrere as far as environmental suggestion is concerned. What both physician and surgeon forever need to keep in mind is that disorders of mood and emotions are not infrequently accompanied by symptoms which are of a physical nature, and that many of these patients will tell only of their physical symptoms and entirely neglect to say anything about their changing moods and emotional upsets. It may be perfectly obvious that some existing pathology is present in a given case, but when one discovers that the mental state of his patient far overshadows any symptoms due to existing pathology, it is unwise, indeed, to attempt to eradicate a symptomless pathologic condition in the hope that it will cure a disordered psyche. It is here that many failures in medicine and surgery occur. It is in the treatment of symptoms, and not of their cause, that disappointment occurs to both patient and physician.

The following is a case in point. An elderly widow, now in her late sixties, has been under

my professional care, from time to time, for the past eleven years. During most of the time she lived on a farm in a nearby county. For many years she has been aware that her heart had undergone changes due to valvular lesions, the result of repeated attacks of tonsillitis during childhood. However, the cardiac change was symptomless. Aside from a little nervousness, associated with insomnia at times, and an occasional attack of migraine, her complaints were of no moment. Then came a change in her life. She moved from the farm and, with her daughter, went to live in the county seat. Dissatisfaction and disinterest in her new surroundings soon asserted themselves. She began to get moody, lost her appetite, and became antisocial toward her friends and neighbors. Somatic complaints, vague and bizarre in character, crept into the clinical picture. She took to her bed and resigned herself to the fate of invalidism. All efforts to cheer her up or to make her feel that her symptoms, her fears and her anxieties were without physical cause, were without avail. Her weight dropped from 140 pounds to 97 pounds. However, she complained of no symptoms referable to her gastro-intestinal tract excepting the loss of appetite. She entered a local hospital for observation. A careful physical examination failed to reveal any organic change as a cause of her psychoneurotic state. X-ray examination of the digestive tract brought to light the presence of unsuspected and symptomless gall-stones. The nature of her illness was explained to her family. Even if one had felt that her gall-stones were the cause of her manifold symptoms, it would have been unwise to advise surgical intervention on account of her extreme physical weakness. I felt that an unstable emotional state was the primary cause of her illness and that her bodily condition was but the end result and outward reflection of her unhappy frame of mind. With the completion of her examination she was discharged from the hospital. Sometime after her return to her home a cardiologist was called to see her. No doubt this action was taken because of some complaint she made about her heart. Of course the specialist found what had been present for many years; namely, cardiac hypertrophy and dilatation due to incompetent mitral and aortic valves. Having given special attention to diseases of the heart, quite naturally there was nothing for him to do but to ascribe her condition as secondary to cardiac disease and to prescribe a therapy for a heart which showed undoubted organic change but which was doing good and efficient work. But the patient got no better fast. Finally in desperation her family again brought her to Des Moines and placed her in a nursing home. Her mental state was that of one who had given up all hope of recovery. Her emotions were unstable, she was extremely moody, her thoughts during her waking hours were filled with fears and anxieties and she resigned herself to a state of invalidism from which she saw no way to recovery. There was no evidence of cardiac failure. The change of environment, forced feeding and rest, a pseudo-appetite created by the use of insulin and an ever cheerful and encouraging atmosphere began to do for the patient what she and others had not been able to do. True it is that she still possessed her gall-stones. True it is she still possessed a heart with myocardial changes due to stenosis of the valves. But neither of these conditions had anything to do with bringing about the mental state with its attendant somatic symptoms. Her inability to adjust herself to environmental change plus a natural tendency toward emotional instability brought about her unhappy mental state with its array of secondary physical symptoms. Several weeks ago the patient walked into my office. I scarcely recognized her, as I had not seen her for about two months. She had gained 35 pounds in weight, her mental and physical symptoms long since had disappeared, and once again she was radiating that atmosphere which comes from individuals who enjoy good health. Once more the philosophy of Weir Mitchell triumphed. Once again was health restored to one who otherwise would have succumbed to inanition directly brought about by an unstable emotional state.

Then how are these psychoneurotic patients to be diagnosed and treated as regards their symptoms? Obviously, this is an important question, and its answer depends a great deal on the mental acumen and professional finesse of the physician as he interrogates his patient. Without doubt, the treatment of a psychoneurotic patient begins with the taking of the history of his case. The old saying "First impres-

sions are the most lasting" is only too true These individuals, as a rule, start relating their complaints — almost in alphabetical order — in so persuasive a manner that they not only convince themselves, but ofttimes their physician as well, that they are suffering from some organic condition. Who among us has not listened at times to the "organ recital" of a patient as he methodically goes over his long list of complaints and then, for fear of overlooking a single one — like the sheep that strayed from the fold — pulls from his pocket a carefully written memorandum and minutely and meticulously scrutinizes it to see that nothing has been omitted. He is so anxious that his physician know all, see all, and hear all, that he has fortified himself to such an extent that no one could charge him with committing the sin of omission as far as the relating of his symptoms is concerned.

It is very necessary that a careful history of the somatic complaints of the individual be taken. Let him relate his symptoms in his own words. By no means should the interrogator ask leading questions. It is essential that all complaints should be obtained else, in the final analysis, a few of the blocks in the diagnostic jig-saw puzzle will be missing and the clinical picture be left incomplete. Likewise, the individual should be questioned concerning his social and cultural background. This is done for the reason that every individual is the product of the culture into which he is born and of the resulting environment in which he lives. Culture has its vices; it, also, has its advantages.

When it comes to the consideration of the subjective or personal aspect of the patient, the physician should be cognizant of the fact that the individual knows far more about himself, his manner of living, thinking, feeling, acting, of his past and present, than does the most astute and erudite medical scholar yet born. The mental autobiography of the patient is known only to himself. It is into this hidden treasure vault that the physician hopes to gain entrance. To ask for the key by which to gain direct entrance into this mental sanctum sanctorum is almost certain to bring denial to the physician and in most instances it will turn the patient against the one to whom he has come for help. To gain admission into so sacred a place requires great skill, tact and finesse on the part of the physician. It is a technique that, so far as I know, is not to be learned from text books. It is the ne plus ultra of the art of medicine. It is an accomplishment mastered by but few of our profession because it requires what the average physician is not willing to give; namely, time, patience and perseverance in the study of his patient and in the consideration of his manifold complaints.

After the history with all of its painstaking ramifications has been obtained, it is essential that a careful physical examination be made. It is unwise for the physician to do this in a prejudiced state of mind. To do so may lead him into great error. First, because the patient is convinced that he has some definite physical ailment. A cursory examination by no means would help to exterminate that idea from his mind. Second, because many an individual who had been judged a neurasthenic may be the beholder of some definite organic disease. The examiner never should lose sight of the fact that definite organic sickness may be grafted on a functional background. The ordinary routine examination of blood and urine, likewise, should supplement the examination. Other laboratory procedures, including X-ray, should be carried out when it appears that such are indicated. They are done that no doubt may remain in the mind of the patient that his physician has left no stone unturned to get at the bottom of his trouble.

With the history, physical findings and laboratory data before him, the physician is now prepared to talk over the problem with his patient. If no diseased condition has been found, ordinarily, the seance is a short one. In fact, the psychological reaction of the average patient is one of joy and relief when he is told that he has no serious ailment. But to the psychoneurotic person no such mental reaction occurs when he is informed that he is physically well. In fact, disgust, dissatisfaction, resentment, unbelief and even anger are apt to be manifested if the mentally ailing one is told he only imagines his symptoms. It is necessary, therefore, to get off to a correct start if a satisfactory finish is to be hoped for. The whole problem should be discussed frankly by patient and physician. This discussion usually brings out one important thing — namely, that the auto-diagnosis of the patient and the diagnosis of the physician

may be widely apart. It usually reveals the patient's attitude toward his own case, gives an insight into his emotional state and helps the physician to determine whether that attitude will be positive, passive or negative in carrying out the indicated treatment. There is the tendency on the part of the patient to translate every bodily feeling into physical terms and his symptoms, thus expressed, are in physical, rather than in mental, terms. Therefore, the best way to change the mind of such a patient is not to disagree with him. The old saying "a woman convinced against her will, is of the same opinion still," is apropos. The physician will find that it does not pay to deal with individual symptoms but rather to deal with general symptoms. He will find that the patient himself is his best therapeutic agent if he can but properly manage him without allowing him to know that he is being managed.

The patient is, in part, his own physician. To obtain any modicum of success in treatment, there must be team-work between patient and doctor. This is absolutely essential. Illness is an experience as well as an economic loss. This experience, which at times is a costly one, serves the patient in a two-fold manner: it impresses on his mind the financial loss to which he is subjected, and it helps him to understand himself better as his mental aberration is disclosed to him by his physician. With this disclosure there usually comes about an increase in self-confidence and, in knowing one's own mind, he applies the best therapeutic agent yet known to man, for the goal of psychotherapy is autotherapy.

GERMICIDAL PLASTICS

Perfection of self-sterilizing plastics that can be used for the production of food containers, drinking cups and similar utensils or as a durable antiseptic paint or varnish to coat other exposed surfaces is now reported from the Rare Metal Institute, California Institute of Technology.[1]

Extremely small quantities of ionized copper, silver or gold have remarkable germicidal powers. Silver was selected by the California metallurgists as most promising because of its relatively low toxicity and comparative cheapness. The feasibility of coating surfaces with metallic silver was first ruled out, since such surfaces are soon "disactivated" by the formation of surface films of protein or other germicidally inert compounds. In order to produce a surface not susceptible to this "disactivation," only a portion of the available silver ions should be present on the surface, with an abundant supply of reserve ions protected from deterioration but so located as to permit rapid surface replacement by outward diffusion. To accomplish this the reserve silver compounds should be incorporated in some plastic material having the desired rigidity and outward diffusion rate.

The only inexpensive durable substances with the required properties are certain organic resins or plastics currently used in the production of the newer varnishes or paints. Silver compounds can be incorporated in the unpolymerized resins or dissolved or dispersed in the solvent. The further incorporation of a neutral, opaque filling material is of advantage if the germicidal surface is to be exposed to light. The resulting mixture is a viscous fluid which can be applied by brush or by spray. The fluid hardens in situ by polymerization or evaporation, forming a surface that is tasteless, odorless and resistant to mechanical wear. The total quantity of silver which the material must contain varies with the intended use and desired degree of permanence. One Gm. of silver ions for 1,000 square centimeters of exposed surface is the heaviest type of varnish thus far developed.

The germicidal properties of such surfaces have been tested with a number of yeasts, molds and saprophytic bacteria. The test micro-organisms are suspended in distilled water, peptone water, sucrose solution, cider, milk or other desired medium, which is spread as a thin film over the test surface. At intervals samples of the film are removed by means of a sterile cotton swab, and the number of viable micro-organisms is determined by routine cultural methods. The germicidal efficiency of the surface is judged by the rate of decrease in the viable count. With the most efficient surface thus far prepared, 100 million of Escherichia coli per cubic centimeter of suspension fluid are killed in less than one minute. Other surfaces require five or more minutes for total sterilization.

1. Goetz, Alexander; Tracey, R., and Goety, S.: Science 95: 537 (May 22) 1942.

The rate of sterilization does not vary appreciably for the vegetative forms of different bacterial species. Spores, however, are less readily killed, B. subtilis spores, for example, suspended in cider or sugar peptonic solution requiring fifteen to thirty minutes for a 95 per cent reduction in viable count. Surfaces are not appreciably impaired by repeated washing, until the plastic layer is completely removed by mechanical wear.

Thus far acid fast bacteria and pathogenic viruses have not been tested with the new germicidal plastics. The plastic is readily applicable to metal, glass and wood surfaces or absorbed in paper or cloth. It is resistant to acids, alkalis and boiling water but may be readily removed by certain organic solvents. Its predicted effects in controlling microbic infections, however, have not yet been confirmed experimentally or statistically.

HOSPITALS TO BE REIMBURSED FOR CARE OF CIVILIAN CASUALTIES

Payment for temporary hospitalization of civilians injured as the result of enemy action has been made possible by a recent agreement between Administrator Paul V. McNutt of the Federal Security Agency and Director James M. Landis of the Office of Civilian Defense. The funds have been allocated to the U. S. Public Health Service by the Federal Security Administrator from funds made available to him from the President's emergency fund. A joint memorandum embodying the details of the program has been issued by Surgeon General Thomas Parran of the U. S. Public Health Service and Dr. George Baehr, Chief Medical Officer of the Office of Civilian Defense.

The plan provides that all hospitals caring for civilian casualties in the event of air raids or other enemy action will be reimbursed by the federal government at a rate of $3.75 a day. This is the rate of reimbursement established by the Federal Board of Hospitalization for federal beneficiaries in government hospitals and may be changed as conditions require, it was stated.

Any hospital in the nation, voluntary or governmental, may be used as a casualty receiving hospital in the Emergency Medical Service established by the Medical Division of the Office of Civilian Defense. In addition, certain hospitals and other institutions in "safe areas" may be used as emergency base hospitals for casualties or other patients whom it may be necessary to evacuate from urban hospitals in exposed areas. The new agreement provides that federally owned equipment may be loaned to the base hospitals and that their staffs will be supplemented by physicians of the region who will be commissioned in the reserve corps of the U. S. Public Health Service. It was emphasized that management and control of all hospitals, both local casualty receiving hospitals and emergency base hospitals, will remain the responsibility of the local or state authorities.

In the establishment of emergency base hospitals, emphasis will be placed on the relative safety of the area and the availability of existing hospitals and other institutions. Hospitals are now being surveyed for this purpose and will be classified on a basis of size, equipment and standards of operation.

It is proposed to begin immediately the organization of medical staffs for future base hospitals as hospital units affiliated with casualty hospitals similar to the affiliated general hospitals of the Army. The physicians, surgeons, specialists and dentists who are to be commissioned in the Public Health Service Reserve for service in these hospitals will receive rank, pay and allowance equivalent to those of the Medical Corps of the U. S. Army. They will be selected from older age groups, from physicians with disabilities that make them ineligible for military service, and from women physicians. As far as possible, they will be assigned to service in the regions in which they live. Because they are to function as balanced professional staffs, they will be recruited from the staffs of civilian hospitals and cleared through the Procurement and Assignment Service.

Regional Medical Officers of O. C. D. who are appointed in the Public Health Service will be the regional representatives of both agencies for this program. State Chiefs of Emergency Medical Service or their deputies may also be appointed consultants or commissioned in the Public Health Service in order that they may act as state representatives for the two agencies in the organization of emergency hospital facilities and the reimbursement of hospitals for the care of civilian casualties. In the more pop-

ulous coastal states a full-time State Hospital Officer may be needed, who will also be eligible for appointment in the Public Health Service.

Appointment of a state hospital officer as an official of Emergency Medical Service has been recommended by the Medical Division for densely populated states in the target areas. These areas are principally in the First, Second, Third, Fourth, Eighth and Ninth Defense Regions.

The principal function of the hospital officer will be the planning of emergency base hospitals for the reception of civilian casualties and other hospital evacuees. An official memorandum sets forth his duties as follows:

1. To survey the hospitals throughout the state (excluding those in the exposed cities) to determine how many beds can be put into immediate use in emergency with existing kitchen, laundry, sanitation and other engineering facilities:
   (a) By clearing patients to their homes
   (b) By restricting admissions
   (c) By use of rooms not normally used for patients
   (d) By rehousing medical and nursing staff and other hospital personnel outside the hospital
   (e) By use of neighboring buildings (schools, hotels, etc.), for patients (or staff)
   (f) By extra bed accommodation in temporary structures erected on available grounds adjacent to the hospital.

2. To assist in designating for each casualty hospital or group of hospitals in each exposed city:
   (a) The line of evacuation to the base
   (b) The transport arrangement
   (c) The emergency base hospitals provisionally allotted to each casualty unit.

3. To keep constantly informed of the bed state of every hospital in his area by weekly returns.

4. To advise the Office of Civilian Defense, through the Regional Medical Officer, on the need for providing additional accommodations, e.g., by temporary construction or by converting convalescent homes, hotels, school dormitories or other structures into hospitals.

5. To report to the Regional Medical Officer of the Office of Civilian Defense any exceptional conditions requiring action (e.g., beyond state boundaries, or required by the need of the military situation) and to forward to him copies of a monthly summary report on the state's emergency hospital program. Where a hospital outside a state boundary is readily accessible for the reception of casualties from an exposed city, this fact should also be noted.

6. To maintain constant touch with the other service departments of the State Defense Council (e.g., evacuation, etc.).

7. To supervise the distribution of medical and hospital supplies under the direction of the State Civilian Defense Property Officer and report any threatened deficiency to the Regional Medical Officer.

8. To supervise staff arrangements for emergency base hospitals and for reception areas.

9. To control movements of medical and nursing staff, as well as of casualties in any situation affecting emergency base hospitals.

The hospital officer must work in close collaboration with the state evacuation authority, the memorandum points out. In addition, he may find it necessary to collaborate with the state officer in charge of institutions for the care of mental patients, if such hospitals are to be used as emergency base hospitals for the reception of casualties and other patients evacuated from urban hospitals. Transport arrangements are to be handled in collaboration with the evacuation authorities of the state and the military authorities of the area.

TESTS FOR SYPHILIS IN PREGNANT WOMEN

Through the cooperation of the physicians in New York City, voluntary and municipal hospitals and the Bureaus of Vital Records and Statistics, Child Hygiene, Health Education and Social Hygiene of the Department of Health of the City of New York, a study was made of the serological tests for the mother during pregnancy. In the latter half of 1940, with the cooperation of the Bureau of Vital Records and Statistics, transcripts of birth certificates indicating a positive serological test for syphilis in the mother during her pregnancy, or bearing no information concerning such test, were assigned for follow-up in the Bureau of Social Hygiene. The hospital or physician concerned in the delivery was asked to supply pertinent

epidemiological information. The experience of the past twelve months indicates that in 1941 about three to four percent of the pregnant women in New York City reached the time of delivery without having blood test for syphilis during the pregnancy. Physicians in practice explain their lapse in this regard by recording refusal of the pregnant woman to submit to venipuncture, by inability to secure blood through small veins, by negative serology at premarital test or previous pregnancy, and by emergency delivery. Institutions ordinarily state that no blood test for syphilis was done because the delivery was an emergency, the pregnant woman having had no prenatal treatment at the hospital reporting the delivery.

During 1941, the total number of births reported were 114,368 live and 8,975 still births and abortions. A total of 4,380 of these births were investigated by medical epidemiologists of the Health Department; 801 because of positive prenatal serology and 3,579 because no serology was reported.

Reasons were obtained for not reporting serology in 2,325 births. In 170 cases, no reply could be elicited from the physician or institution reporting the birth. In the balance of 1,084 births, 1,049 were negative and thrity-five positive.

A LAST PAGE LYRIC

Picked by A. H. O. from the Indianapolis Star

By Mary E. Bostwick

(Persons violently allergic to all forms of exercise will be glad to hear that Dr. Fishbein, American Medical Association Journal editor, says nobody ought to "lift a finger unnecessarily" after 40.)

Oh, when it comes to exercise a lot of us, we've found,
Have spent our lives in dodging schemes to make us stir around—
And we were right as right coud be, and now we're justified,
For Dr. Fishbein, A.M.A., is backing up our side.
This Dr. Fishbein is a man we like extraordinarily—
"If past your youth," he says, "Don't make a move unnecessarily!"
Oh, that's the way we've always done,
and how our friends deplored it!
We'd find ourselves a rocking chair, and firmly stay aboard it.
"Come take a golf ball, dear" they'd say,
"And smack it from a tee—
You ought to get some exercise" and we'd reply, "Who? Me?"
They'd say, "I'll teach you tennis, dear,
I know you'll simply love it.
You'll put on weight if thus you loaf," and we'd reply, "What of it,"
They'd say, "The air is bracing, dear—
come out and take a hike—
Come out and ski or bowl or skate or pedal on a bike—
Put on your bathing suit and come and gambol on the shore—
Come out and climb an Alp or two"—
and we'd reply, "What for?"
And they would say, "Alackaday—you cause us great distress—
Do you prefer to loaf through life?" and we would answer, "Yes!"
Good Dr. Fishbein, you're okay—we wish you lived our street up—
We'll keep on doing as you say, and putting both our feet up.

J. A. M. A.

LET'S FINISH THE JOB

They have taken away the lapels from our coats,
Have forbidden the cuffs on our pants;
So with cotton and shoddy
We must cover our body,
As patch pockets are looked at askance.

But why should they stop at a job partly done?
They should put a harsh ban on a vest,
And eliminate ties
And reduce excess size
Of our top-coats and pants and the rest.

And just why should a raincoat be burdened with sleeves,
Or a shirt have a collar or tail?
Let's make hats taboo
When an eye shade will do
And forbid shorts and sox for the male.

Why not one great big pocket instead of fourteen?

We could do without shoes and not grieve;
If wearing less clothes will help us win
We will gladly go back to leopard skin
Or will dress in a fig leaf like Eve.

GERIATRIC JOCULARITIES

A keen and cultured little lady admitted that she was "past eighty."

One day I found her definitely petulant because of shortness of breath and some oedema of the ankles.

She seemed somewhat appeased when I explained to her as patiently as possible that all this came from a tired heart and that, after all, this heart had been a most faithful organ, beating away at an average rate of more than seventy times every minute of every hour for as many years as she had lived.

On seeing her a few days later her bed table was a litter of papers covered with figures.

I asked what she had been doing.

She replied, "I have computed the number of times my heart has beat during the years I have lived. You see I never have told people my age. I have told them that I am about eighty. Actually I am past eighty-eight and hereafter I shall say so. If I say eighty I am not fair to this faithful heart of mine for in those extra years it has beat 294,336,000 times for me and I would be an ungrateful old woman if I did not give the credit due it."

"Furthermore," said she, "during the eighty-eight years, six months and four days that I have lived by heart has worked for me 3,256,495,-200 times. Something to be proud of, don't you think? At any rate I shall never again complain of it."

A reasonably safe wager would be that one could approach any college president in the United States, and, with a minimum of sales talk, sell him a fistful of Christmas Seals. The hitch comes when we try to sell many of these leaders the very program their own money has gone to support. It is to be feared that sometimes we contribute to worthy causes in order to be spared further thought about them or contact with their unpleasant realities. Too many college administrators, even in these enlightened days, refuse to admit the necessity for early diagnosis among their own students, though they will give generously to an agency whose chief concern is early diagnosis for all who need it. Charles A. Lyght, M.D., Journal-Lancet, Apr. 1942.

The tuberculin test should be a part of the pre-school examination. Tuberculosis seldom develops in its clinically serious forms in children but they are easily infected with the germs of the disease, which may remain dormant until they reach the teen age or early adult life, and then cause trouble. Through the tuberculin test it is possible to determine whether or not a child has been infected. When the test is positive every effort should be made to find the source of infection and to protect the child from further exposure to the disease. It is important to point out here that precaution should be taken to make sure that maids and other household employees are free from tuberculosis by having them tuberculin tested and X-rayed if positive to the test. Chester A. Stewart, M.D., Louisiana News in Brief, Sept.-Oct., 1941.

Tuberculosis is the remaining arch-foe of childhood, harbored unwittingly by many adult associates and calling for special attack, although the principles applicable to its control are identical in the main with those pertaining to contact infections in general. Wisc. Assn. for the Disabled, June, 1942.

Boys and girls in secondary schools, technical schools, colleges and universities are at a period of life where physical and mental strain is great, and the risk of tuberculosis serious. The disease at these age periods shows a tendency to increase. Regular X-ray examinations are advisable. Doctors responsible for the health of such institutions are asked to encourage their wider use. Policy of National Assn. for Prev. of Tuber. (England). Tubercle, Feb., 1942.

Primary tuberculosis in adults is not, as is frequently assumed, a benign disease. P. Bernoulli, Schweiz. med. Wchnschr. Sept., 1940.

Give me health and a day and I will make the pomp of emperors ridiculous.

Ralph Waldo Emerson

Industrial workers are as much a part of an all-out war effort as are the men in uniform, since twelve men are needed in the factory to keep one man in the field and loss of working time is as serious as the loss of a battle. Tuberculosis is two and a half times as great in industry as in the general population. It thus becomes the serious responsibility of the industrial medical officer to protect such workers by case-finding surveys, and the control of tuberculosis is an important phase of industrial hygiene. G. J. Wherrett, M.D., Canadian Pub. Health Jour., Sept. 1942.

Tuberculosis — an age-old enemy of mankind, and a reliable index of physiological social, and economic well-being. K. F. Maxcy, M.D., Amer. Jour. of Pub. Health, Oct., 1942.

Clinicopathologic Conferences

J. J. Moore, M.D., Department Editor.

PRESENTATION OF CASES BY
WALTER SCHILLER, M. D.
Cook County Hospital
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CASE 1 — INTUSSUSCEPTION OF THE TERMINAL ILEUM

History — This 70 year old colored female was admitted to the Cook County Hospital on September 2, 1942 with a history of being well until two weeks ago when she began to vomit a few minutes after every meal with continuous nausea. At the same time she developed pain around the umbilicus radiating to the epigastrium, and occurring especially during vomiting. She had lost about 35 lbs. of weight during the last 6-12 months. She has always had one bowel movement in two days.

Patient had similar complaints before 1936, but refused to be operated on. In 1936, she was operated at the Cook County Hospital "because her bowels were locked."

Physical Examination revealed a poorly nourished colored female. B. P. 198/114; Pulse 88; Respiration 24. Pupils reacted to light and accommodation. Teeth carious. Heart was within normal limits. Normal rhythm, with a soft systolic murmur at the apex. There was a suggestion of a small soft movable mass in the right lower quadrant with an old right perirectus scar. Over the labia majora was a small pedunculated polyp.

An emergency x-ray showed a typical ladder-paralleling of the intestines. At times no peristaltic sounds were heard, at other times peristaltic rushes were heard. Routine oil enemas came through in 6 hours.

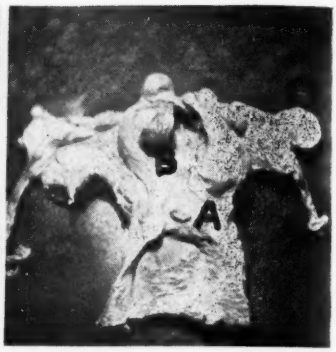
The diagnosis was an incomplete small bowel obstruction on basis of adhesions. During her stay in the hospital, her temperature was normal. At times she would vomit. A slight abdominal distension would come and go.

The only time she complained of pain was on the day she expired, at which time the patient asked to be taken "upstairs" for surgery. The pulse became weak and thready. The abdomen became somewhat rigid and tender with hyperperistalsis. A surgical consultation diagnosed "not obstructed", and patient expired on the same day, 14 days after admission.

Autopsy — The body is that of a well developed, well nourished colored female. There is no pitting edema. The abdomen is retracted and shows to the right of the umbilicus a paramedian linear scar of 12 cm. in length. On opening the abdomen, the omentum is found adherent to the lower ileum, the latter being covered by adhesions and matted to some higher intestinal loops and to the peritoneum of the anterior wall. The rest of peritoneal serosa is smooth and the cavity free. The adhesions around the ileum are dark purple red and give the impression of consisting mostly of blood about to be organized. The appendix is normal and gives no evidence of inflammation. The terminal ileum is markedly distended and is almost as large as the cecum. Its serosa is dark red and covered with soft, fibrinous precipitations. On opening, the terminal ileum shows an invagination or intussusception of 6 cm. length and 5 cm. in diameter which has resulted not only in the distension of the terminal ileum but also of the ileo-cecal valve which, since the

Intussusception of the terminal ileum. A probe has been passed through the lumen of the invaginated part, which is not much wider than the diameter of the probe.

The end of the invaginated part under higher power with the polyp A next to end of the probe.



Uterus with cervical polyp A and endometrial polyp B.

Photos of Figures 1, 3, 4, by courtesy of Dr. E. M. Kurth, Chicago

Case 1—Figure 1

lumens of the ileum and cecum are almost equal, appears from the mucosal side as a low, slightly-projecting fold.

The mucosa of the invaginated part as well as the outside layer of ileum is dark purple red and finally granular by necrosis and hemorrhagic inhibition. From the end of the intussuscepted part projects a mushy, purple red polyp 30 x 21 x 30 mm. The part of the ileum proximal to the intussusception is dilated to almost the size of the lumen of the cecum. Its wall shows a marked hypertrophy of the muscularis and a progressive edema of the mucosa which is discolored dark grey. The lumen is stuffed by abundant masses of soft, pasty yellow contents.

The intussuscepted part proves to be able to admit a probe of no more than 4 mm. in diameter. The above mentioned adhesions are arranged around the terminal ileum and have no direct relation to the abdominal scar.

The examination of the other organs reveals a polyposis of the rectum, progressive parenchymatous degeneration of the liver and the kidneys and a mild chronic ascending pyelonephritis.

There is a bilateral peri-oophoritis and salpingitis with a left hydrosalpinx. On opening the uterus, which is disfigured by several submucous and subserous fibroids, a pedunculated cervical and two hemorrhagic endometrial polyps become visible. Both ovaries are moderately enlarged. The surface layer is white, hard, homogeneous, and shows on transverse cut, small, cystic inclusions with smooth lining and serous fluid in the lumens. Numerous pin-head and pea-sized, white, firm polypoid nodes project over the surface.

Microscopic: The intussuscepted ileum shows necrosis and hemorrhagic inhibition of the mucosa. The ovaries have on the surface a papillary adenofibroma with cystic inclusions. The stroma consists of dense fibrous connective tissue, poor in cells with a tendency to hyaline degeneration. The epithelium of the surface projections and of the cysts is low columnar to cuboidal with large, deep-staining nuclei.

Discussion: Many points of the history seem to confirm the diagnosis, which was raised several times, of a malignancy of the large bowel. Constipation, blood in the feces and loss of weight of 35 lbs. during the last year, fit very well to the suggestion of a carcinoma of the sigmoid or, maybe, of the descending colon.

Once a mass was palpated in the left lower quadrant. The fact that in the last time, the mass seemed to be in the midline, or even to the right side of it, could be explained by a distended sigmoid, or a somewhat mobile ascending colon.

The hypertension, which was confirmed by repeated examination, appears to be an incidental finding having no relation to the intestinal pathology. But, there are several findings which do not fit in this picture. On one of the last days, an intern palpated a mass in the cecum, which was too far to the right side for a malignancy of the sigmoid or the rectum. Further, the various signs which indicate an obstruction of the small intestines, as paralleling of the small

bowel on x-ray, vomiting, etc. are very rarely found in constructing carcinomas of the large bowel which, by its large lumen and its distensibility to a high degree can compensate for an obstruction, thus, preserving, to a certain degree, the small intestines from the deleterions effect of a stasis of the contents. And finally, eight years ago, in 1936, she had a similar attack which, after a few weeks, cleared up completely. An obstructing carcinoma of the large bowel, which has caused an obstruction of the lumen may give way again by necrosis of the parts which project in the lumen. But the improvement of the patient's condition will not last longer than a few weeks.

An interval of improvement and latency of eight years is not likely in a large bowel malignancy, in which ordinarily the patient succumbs the latest 3-4 years after the appearance of the symptoms. Intervals of 3-4 years one may only expect in radical operations in the early phase of a malignancy when the patient succumbs to recurrence or metastases. But in a case which already has caused severe changes and has not been operated on, six years of latency and improvement make such a diagnosis most unlikely.

A second diagnosis raised was a terminal ileitis. But this disease in general causes an obstruction only rarely. Here similarly, the long latency, and sudden onset of the attacks makes the diagnosis doubtful. It has to be admitted that intussusceptions of the type encountered in this case are very rare.

75% of all intussusceptions occur during the first year of life and of these 70% occur in males. Our case concerns a 70 year old woman. The cause of intussusception, in the overwhelming majority is a deficient coordination of peristalsis, sometimes occurring during agony. Only a minority of cases is due to polyps which interfere with the waves of peristaltic contraction and dilatation. Our case, again, belongs to this minority as regards to the etiology. The cause of the intussusception evidently was the polyp. The latter probably was not as large as we found it at the autopsy. Edema and hemorrhage may have enlarged it 2-3 times its previous dimensions. In general, polyps of the ileum are rare. Polyps of the duodenum and stomach are more frequent, not to speak of polyps of the rectum.

This patient had a general and evidently constitutional tendency for polyps, having developed a polyposis of the rectum, left labia majora, cervix and endometrium and the polypoid cystofibroma of both ovaries. Evidently, the polyp of the ileum six years ago had caused an invagination which was reduced spontaneously after a short while. She had, as the history claims, a previous laporatomy about which we could get no information.

The autopsy showed a simple scar of the abdominal wall without intraperitoneal evidence of any surgery. It is possible that she had an attack previous to the attack six years ago, and the surgeon operated on her with the diagnosis of acute appendicitis and closed the abdominal wall without doing any further surgery after he found the appendix perfectly normal.

This unsuccessful attempt may have discouraged the patient to agree to an operation when she had another attack six years ago. She was right, that attack also ended by spontaneous reduction.

However, the last episode proved fatal.

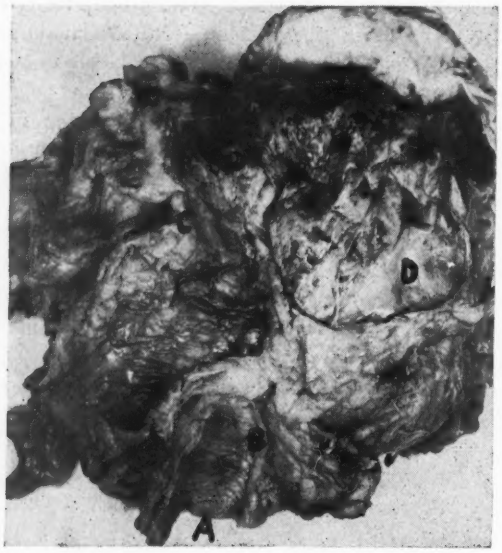
CASE 2 — KRUKENBERG TUMOR

History: — The patient was a 49 year old negro woman weighing 225 lbs., who had noticed a rapidly growing mass in her abdomen for the last 4 months. There had been quite a bit of pain associated with it. She also had pains in the right upper quadrant radiating to the back. In 1922 she was operated on and a fibroid uterus, the appendix and the cystic half of the left ovary were removed. This was done because she complained of vaginal bleeding. After this operation, she became progressively more and more constipated. For the last 5 years, she took 2-3 enemas a day. In the last month, she lost 20 lbs. and developed a nocturia of 4-5 times.

Her mother died of carcinoma of the breast.

Her sister has had a "tumor" of the pelvic organs.

On physical examination her B. P. was 140/90, mouth was edentulous, heart and lungs were normal. The abdomen was distended by a large indurated mass arising out of the pelvis and extending above the umbilicus. It was dull on percussion and moderately tender. Bowel sounds were normal. A diagnosis of an ovarian tumor was made which pressed on the colon producing obstruction. She was treated conserv-



Case 2—Figure 2.—Genitalia and rectum opened from the posterior side. A—Vagina, B—Cervix, C—Constricting carcinoma of the recto-sigmoid junction, D—Ovarian tumor attached to the rectum and sigmoid.

atively. An x-ray showed a constriction of the rectosigmoid. About a week after admission, the abdomen became more distended, and she became weak and cyanotic. The patient did not have a bowel movement during her stay in the hospital. While surgery was being contemplated, she suddenly went into circulatory collapse and expired 8 days after admission.

Autopsy: — The body is that of a well developed white female weighing 225 lbs. There is no pitting edema. Abdomen is distended, its level is 3 fingers above the thorax and shows an old, flat midline scar extending from 4 cm. below the naval to the symphysis. The face, neck, finger nails and toe nails are deeply cyanotic. On opening the abdominal cavity, the peritoneum of the upper two quadrants is glistening and normal and the organs free. In the lower two quadrants, the intestinal serosa is discolored, grayish brown. The intestines are matted together to a great extent by soft, dirty gray fibrinous masses and are adherent to the anterior abdominal wall. Some of the spaces between the intestines are filled with a dark brown turbid fluid. The major part of the right lower quadrant and the pelvis is occupied by a large multilocular cystic tumor, evidently of ovarian origin, the size of a man's head. Some of the cystic cavities have ruptured spilling their contents into the peritoneal cavity and causing adhesions. On transverse cut, the tumor shows numerous cavities of different shape and size, some round, others are flattened and compressed. The septa are thin and the contents are serous to mucinous and varying from a light yellow to a dark brown hemorrhagic color. The inside of the cavities is smooth and papillomatous projections can nowhere be found.

The right pleural cavity is free, the left contains a few cc. of a slightly turbid brownish fluid. The pericardial sac contains a few cc. of a clear colorless fluid. The heart weighs 390 gms. and is well contracted. The valves, the coronaries, the pulmonary artery and aorta are all normal. The lungs are slightly emphysematous. The lower lobes are moderately compressed by an elevated diaphragm.

The stomach has a pale mucosa and presents at the pylorus a few small shallow superficial erosions.

The spleen weighs 140 gms. and is moderately firm. The liver weighs 2400 gms. and is of firm consistency. On the upper part of the right lobe of the liver, several white, firm, umbilicated, flat nodes project slightly over the surface. On transverse cut, they are white and solid, sharply demarcated and the largest has a diameter of 45 mm. The gall bladder, pancreas, small intestines and adrenals present no pathological changes.

The kidneys weigh 290 gms. The capsule strips with ease, leaving a gray tan, smooth surface. On cut surface, it shows no pathological changes. The urinary bladder contains a few cc. of a thick, greenish urine. The posterior part, up to the trigone, is slightly elevated by the ovarian tumor to which the bladder is adherent and in this part the mucosa shows large, elevated blebs of edema.

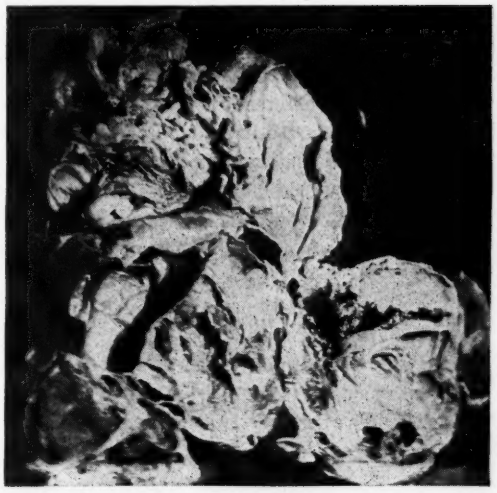
The rectum is collapsed with smooth mucosa and low folds. 15 cm. above the anus, at the recto-sigmoid junction, the lumen is reduced and the wall thickened by a circular carcinoma of 4 cm. in length. Corresponding to the carcinoma, the serosa is firmly adherent to the ovarian tumor. The vagina has a granular, gray mucosa and ends in a short cervical stump.

Microscopically: — The carcinoma of the sigmoid shows a superficial ulceration of the mucosa. The submucosa, muscularis and serosa are invaded by an adenocarcinoma of high maturity. It is formed by irregularly shaped glandular and cystic cavities lined by a low columnar epithelium with pale staining protoplasm and small basal nuclei. This carcinoma forms in addition to the adeno-cystic cavities, to a small extend, solid masses, but invasion by single cells is very rare. The deposits in the liver and in the ovarian tumor duplicate the histological picture of the intestinal tumor. In the septa which separate the ovarian cavities, a marked reactive proliferation of the edematous and inflamed stroma can be seen.

Discussion: — The signs and symptoms of this case can be divided into two groups. First, she developed a large tumor which extended by rapidly growing during the last two months, filled the right lower quadrant, and extended to the left lower and eventually to the right upper quadrants. Since during the first operation, only part of the left ovary was removed, with great probability, the tumor can be traced back to the ovaries and a diagnosis of ovarian carcinoma can be made. This diagnosis gets further probability by her family history, viz., her mother and sister having died of carcinoma.

The loss of 20 lbs. in 1 month also speaks for a malignancy. On the other hand, she suffered with constipation, could not retain enemas, and although no obstruction could be proved, a mass was found in the rectum.

This second group of clinical findings, points to pathology of the large bowel, probably of the rectum. Since two primary malignancies are exceedingly rare, the suggestion gains ground that one malignancy is the primary and the second a deposit by extension, since the left ovary and rectum are close together. Simple adhesions of an ovarian tumor with the rectum, would hardly explain the palpable mass in the rectum. A primary ovarian carcinoma usually has less tendency to invade the neighboring organs than to spread over the peritoneum by causing a peritoneal carcinosis with ascites. This was not found in our case, and so the diagnosis of a carcinoma of the large bowel with extensive deposits to the ovary could have been obvious.



Case 2—Figure 3—Cut surface of the multilocular cystic ovarian tumor.

Ovarian deposits of intestinal carcinomas, by tradition, are called Krukenberg tumors, although, the credit for having discovered these tumors should be given to Marchand who was Krukenberg's superior. The majority of these tumors develops from a primary carcinoma of the stomach, but Krukenberg tumors secondary to carcinoma of the large bowel are not too rare. It is an old rule of clinical gynecology, when a patient is suspected of an intestinal carcinoma, the ovaries should be examined, and vice versa; women suspected of an ovarian carcinoma should be checked for intestinal carcinomas. The strict following of this rule has proved very helpful for the discovery of numerous unexpected intestinal and ovarian carcinomas.

Even if the suspicion is raised only during the operation, the examination of the intestines and ovaries should not be omitted for the benefit of the patient.

In a case Amreich had operated on, the diagnosis of a left ovarian cystoma was made. During the operation it was diagnosed a Krukenberg tumor and a careful examination of the intestines revealed a circular non-constricting carcinoma of the sigmoid. A few days after the successful removal of the Krukenberg tumor together with the uterus and opposite adnexa, a carcinoma of the sigmoid was successfully operated on.

CASE 3 — FETAL HEMORRHAGE FROM A VARICOSE VEIN OF THE OMENTUM

History: — The patient was a 52 year old negro woman who entered the Cook County Hospital on 9-19-42, stating that for the past 2 years she has been having swelling of the abdomen, eyelids, puffiness of the face and swelling of the legs. These symptoms became worse since 8 months ago, when she also developed marked weakness, anorrhexia and vomiting. At times, she would get pain across the abdomen and marked dyspnea on exertion. Lately she urinated twice daily and very little at a time. In 1921 she was operated for a rupture. Her menopause was 2 years ago. She had one child and one miscarriage.

On physical examination she appeared rather lethargic and very ill with a marked generalized anasarca. The heart was enlarged to the left with an accentuated second aortic sound. Rate was rapid; no murmurs. B. P. 160/100. Both lower pulmonary lobes showed dullness, decreased vocal and tactile fremitus with moist rales. The abdomen was distended with fluid, not rigid, and the umbilicus was everted. There was a large movable mass occupying the lower 1/3 of the abdomen. Bowel sounds were normal and the liver was slightly down. On rectal examination there was no blood nor feces. On bimanual examination, the large abdominal mass moved with the cervix. The diagnosis was active nephritis, superimposed on a chronic glomerulonephritis with uterine fibroids.

The N. P. N. was 94, creatinine 7.5. The urine showed a 4 plus albumin and many R. B. C. and pus cells. Blood count was 2,000,000 R.B.C. and Hb. 37% on admission. Chlorides 475. Wassermann negative.

Patient was treated conservatively and expired 4 days after admission.

Autopsy: — The body is that of a well developed, well nourished colored female with progressive chronic edema of both legs as evidenced by thickening and scaling of the skin. There is marked edema over the lower back. The neck and the face, especially the eye-lids, appear puffed and swollen. The abdomen is distended with fluid and extends 2 fingers above the level of the chest. The umbilicus presents a slightly projecting thinned hernia of 5 cm. in diameter. In the right lower quadrant, an old appendectomy scar can be seen. On opening the abdominal cavity, it presents an ascites of 2000 cc. of a dark purple-red, hemorrhagic fluid free from clots. Only in the pouch of Douglas were found a few soft, dark red blood clots the size of walnuts and weighing 250 gms. The large omentum forms the contents of the umbilical hernia, where its peripheral end is loosely adherent to the hernial sac. From here distended varicose veins can be seen running to the pyloric end of the greater curvature of the stomach. Some of these veins are partially blocked by thrombi and one varix 5 cm. below the greater curvature, shows a little opening from which blood oozes on pressure.

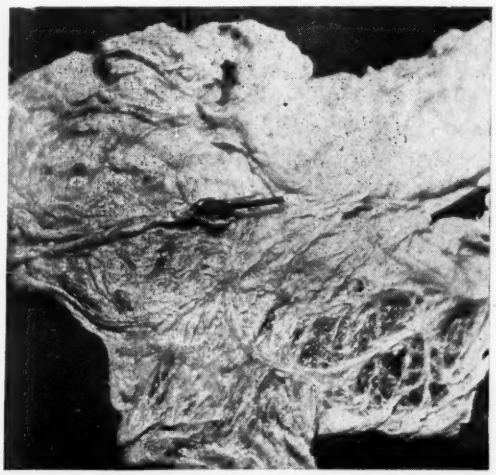
The fixed part of the omentum is kinked and stretched by a stony hard subserous fibroid which projects over the uterine fundus. The peritoneum is smooth and glistening and the intestines and stomach distended by gas. The left pleural cavity contains 200 cc., the right 500 cc. of a clear, yellowish fluid. The pericardial sac contains 30 cc. of a similar fluid.

The heart weighs 260 gms. and is well contracted. Both ventricles contain only a few drops of blood; the blood clots which are usually found are missing. The valves and coronary arteries are normal. The aorta shows plaques of fatty degeneration of the descending part. The lower lobes of both lungs are slightly compressed and atelectatic. The liver weighs 1250 gms. is soft and shows a light gray yellow color due to fatty degeneration.

The kidneys weigh 320 gms. together; the consistency is soft and the capsule strips with ease leaving a light gray, slightly irregularly granular surface with numerous pin point sized hematomas. On cut surface, the markings are indistinct.

The uterus is deformed by numerous intramural and subserous hard white fibroids, the largest of which has a diameter of 12 cm. The ovaries correspond to the age of the patient.

Microscopic: — The liver shows progressed fatty degeneration located in the periphery of the acini. In the kidneys, many glomeruli are obliterated, some by proliferation of Bowman's epithelium, some by a thickening of the fibrous part of the capsule. Corresponding to the degeneration of the glomeruli, the tubuli of



Case 3—Figure 4.—Omemtum with dilated and tortuous veins. A probe has been passed through the gap of the burst varix.

many nephrons are collapsed and the interstitial tissue shows compensatory proliferation with dense inflammatory infiltration.

The tubuli of some functioning glomeruli are dilated by compensatory hyperfunction and project over the surface thus producing grossly small gray granuli. Some of them are stuffed with R. B. C. giving origin to the "flea-bites" representing remnants of a hemorrhagic glomerulitis. The vessels, particularly the small arterioles are in good condition.

Discussion: — The history and the laboratory findings of this case give a clear and rather typical picture of a glomerulonephritis which started 2 years ago acutely with edema and vomiting, albuminuria, hematuria, and in the course of the past 2 years showed the tendency to become chronic. Such cases are not too frequent. 15 to 20 years ago, we saw a great number of cases of typical acute and chronic glomerulonephritis and the nephrosclerosis played a minor role. The text books published at that time dealt extensively with glomerulonephritis and spent only a few lines in italics or as a foot-note for the nephrosclerosis.

This picture has changed entirely. We see nowadays many more cases of nephrosclerosis and only a few cases of glomerulonephritis, a great number of them in children after scarlet fever. This case is one of the rare, typical ones in adult people. All the clinical findings collaborated it and the microscopical picture of the kidneys verified it. There is only one laboratory finding which, even though it fits the picture, exceeds in intensity what we commonly see in such cases, viz., the anemia.

Hemoglobin of 37% and red blood corpuscles of 2,000,000 is much less than we would expect to find in an adult person with a subacute or almost chronic case. In children we may find it when the hematuria is a very heavy one and the nephritis is fulminating. In an adult an anemia of so high a degree should be explained by an additional cause. Unfortunately, the patient was never tapped. If this were done, the hemoperitoneum would have been discovered. Evidently, the oozing of blood from the ruptured vein started some time ago. The opening of the varix was very small and partially occluded by a thrombus, so that the blood could leak drop by drop. Second, there was a complete hemolysis, with the exception of a few small clots in the cul-de-sac. It takes a long time for the red blood corpuscles to become dissolved if suspended in ascitic fluid, since it is isotonic and the contained protein serves as further protection. Evidently, it took a very long time until so large a quantity of blood left the distended vein and became dissolved in the preformed ascites. For the varicosities of the omental veins, we can find two reasons. First, the omentum was adherent to the umbilical herna and thus became elongated by the tension. Second, it was stretched and kinked over the subserous fibroid which projected over the fundus. The stasis and the compression might have contributed to the varicosities and the thrombosis. The rupture might have been caused by some accidental trauma, viz. a fall or a kick.

Physiologically, the omental veins, which open into the gastroepiploic vein, a tributary of the portal, play no great role. Clinically and surgically, they are used to establish an artificial round-about way for the portal blood in cases of cirrhosis. The operation, which bears the name of Talma, and is called lomphalopexia, consists of establishing an artificial anostomosis between the veins of the abdominal wall which

radiate from the umbilicus and if distended form the caput medusa, and the omental veins.

It is said that Talma suggested this operation after he observed a case of cirrhosis in which this anastamosis had been established by an umbilical hernia which became adherent by firm adhesions with the omentum.

In our case, the adhesions between omentum and hernial sac were only superficial and could be easily separated. If the adhesions were firm, an anastomosis would have been formed, preventing congestion, varicosity and rupture.

THE THERAPEUTIC VALUE OF PUPPETS

The educational value of puppetry is less well known than its entertainment and commercial values, says an article by Jeanetta Lyle and Sophie B. Holly, R.N., in the *Bulletin of the Menninger Clinic.* Puppets have long been used in schools, however, where they lend themselves ideally to the teaching of such subjects as geography, history, home decoration, dress design, stagecraft, and dramatics. Their therapeutic possibilities in a program of *re-education* of the mentally ill have been recognized comparatively recently. Child therapy has utilized them most effectively in attempts to learn more about the nature of the child's conflicts which, with his limited vocabulary, he is unable to express adequately in words but can express in play with dolls and toys. A number of reports of this type of work with maladjusted children under the guidance of child analysts have been published.

The reaction of adult patients who may also be unable to express their conflicts verbally because of regression and strong inhibitions to puppet making and use has been less adequately studied, although some observations have been made. This method of recreation in a hospital is prescribed as is any other activity, mental or physical, for the purpose of contributing to lasting recovery from disease. It serves the therapeutist as a means of investigating the patient's difficulties and of helping him to solve them, and it helps the patient to dramatize his fantasies in a creative way. It leads almost inevitably to some kind of social relationship, because wherever there is a dramatic representation there most be an audience, even if it is only one person.

One of the best things about puppetry as a therapy is that it is so versatile. A puppet may play many roles, not only on the stage, but in the treatment of patients. For one person, the building of a being who walks and talks may satisfy a deep creative urge; for another, the complete control that he gains of the puppet's mechanism may expand his ego by giving him a sense of mastery; for another, the antics of the puppet may express the exhibitionistic strivings that he cannot give vent to himself: and for another, the puppet may become an agent through which he can express inhibited agressiveness . . . . .

Sometimes a patient identifies himself with his puppet and cannot be parted from it, taking it to his room and even taking it home with him when he leaves the hospital. The puppet to him takes on a personality, just as Charlie McCarthy has developed an individuality for the radio public that is more real than that of many human performers. One young schizophrenic boy modeled a puppet that looked a little like himself. This puppet first played the part of Jack in *Jack, the Giant Killer,* and later appeared as Gluck in *The King of the Golden River.* Because of his ingenious expression and the hero parts which he played, he soon became the favorite of all the patients and his "master" enjoyed the reflected glory. He enjoyed playing with "Gluck," had him outfitted with a new suit in the women's occupational therapy department, and took the puppet home with him when re recovered sufficiently to leave the hospital, much to the regret of some of the other patients who had also grown fond of the little mannequin. It was quite evident in this case that the success of the puppet brought to this youth the renewed hope and interest in life that a human friend sometimes gives.

One rather touching example of this close identification with a puppet was shown in a presentation of Robinson Crusoe. A depressed schizophrenic man who was manipulating the puppet who took the part of Friday came to the lines where Friday begs Crusoe not to leave him behind on the island. Standing on the bridge over the miniature stage, the patient forgot all about pulling the strings of the puppet and turning to the therapeutist with tears streaming down his cheeks, he recited the passionate plea not to be left alone directly to the therapeutist.

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

Milton H. Bohrod, formerly of Peoria, has been appointed pathologist of Rochester General Hospital, Rochester, New York.

J. A. Fisher of Metropolis was recently elected President of the Southern Illinois Medical Association. W. I. Lewis of Herrin was re-elected secretary-treasurer and C. D. Nobles of Anna was names assistant secretary-treasurer.

Among the speakers appearing before the Twelfth Annual Conference of the Oklahoma City Clinical Society on October 26th and 27th were Frederick H. Falls, Frank J. Novak, Jr. and Willard O. Thompson, all of Chicago.

I. J. Goodman of Loda, a member of the Illinois State Medical Society, awaiting commission in the Army Medical Corps, was killed in an automobile accident on August 16, 1942.

Walter Stevenson of Quincy, was awarded the Mississippi Valley Medical Society Distinguished Service Award for 1942 at the Banquet on the occasion of the Eighth Annual Meeting of the Society, held at Quincy on October 1st.

The December 16th meeting of the DuPage County Medical Society will be held at the Zace Sanatarium, Hinsdale, on the evening of December 16th. A tour of the Sanatarium will be made by the visiting doctors under the direction of Dr. Webb.

Harlan English has been invited to address the Crawford County Medical Society at the Woodworth Hotel, Robinson on December 10th.

Will-Grundy County Medical Society meets for luncheon every Friday noon at the Louis Joliet Hotel, Joliet. Excellent speakers discuss subjects of current interest. All doctors are cordially invited to attend these meetings.

Herbert E. Landis address the McLean County Medical Society at Bloomington on "Hematuria," November 17th.

A combined lecture and demonstration course in Occupational Dermatoses will be conducted in Chicago, beginning January 11, 1943, by Dr. Louis Schwartz, Chief of the Dermatoses Investigation Section of the U. S. Public Health Service of Bethesda, Maryland. The teaching period will cover two weeks, the first of which will be devoted to lectures and demonstrations, and the second to plant visits. Dermatologists, industrial physicians and others interested in the course should communicate with

55 East Washington Street
Dr. Edward A. Oliver
Chicago, Illinois

No limit will be placed upon enrollment for the lectures but the visits to the plants will be limited to twenty-four enrolees. No fees will be charged.

"A very wholesome and marked improvement" in the University of Illinois College of Medicine, Chicago, has been made since the last

(1935) inspection by the American Medical Association, according to the report of a study made by that body last August and released today.

(Charges that the University of Illinois had deteriorated during the past eight years as the result of political activity by the Board of Trustees resulted in action by the Board at its June, 1942, meeting inviting the American Council on Education and the Amercian Medical Association to investigate the University. The American Council on Education has not yet reported but the American Medical Association has submitted an elaborate report after an exhaustive study of the College of Medicine.)

The College of Medicine is "an integral part of the University of Illinois, a state-owned institution," the report says, "controlled by an elected board of trustees, of which Doctor Karl Meyer, Chicago, is president."

The report states that "there is apparently being effected a rather progressive reorganization of the curriculum which promises much more satisfactory clinical training during the third and fourth year than was possible at the time of the last visit (1935).

"Members of the faculty, both preclinical and clinical, are in general outstanding and competent men who appear to be greatly interested in teaching," the report continues, "and it would appear that the heads of practically all of the clinical departments recognize the need for additional clinical facilities under their immediate supervision.

"There is being developed in connection with the dental, medical and pharmacy schools, correlated, cooperative and even integrated teaching program. The school is to be commended for undertaking this interesting experiment which should be a real contribution to professional education.

"Further developments are currently being effected or studied and these promise to offer unusual opportunities in the fields of both undergraduate and graduate medical education.

"The physical plant for the preclinical departments is apparently satisfactory, and the departments of Pathology and Bacteriology which were very unsatisfactorily housed at the time of the previous visit now have satisfactory quarters."

Dr. Raymond B. Allen, executive dean of the three colleges of the University of Illinois located in Chicago, said in commenting on the report: "In no important particular has the report brought forth any facts or conclusions about which the University has been unaware or about which something has not or is not being done. Many of the suggestions for further improvement must await sufficient financial aid. Nevertheless, it is invaluable to have outside agencies express their unbiased, informed judgment as exemplified in this report."

MARRIAGES

ISIDORE BRILL, Champaign, Illinois, to Miss Rosa Lee Rose of Chicago, October 13, 1942.

ROOSEVELT BROOKS to Miss Gwendolyn Redmon, both of Chicago, June 27.

AUDREY JANE MCDONALD, Roodhouse, Illinois, to Mr. James M. Mallowe of Chicago in Compton, Calif., September 18.

CYNTHIA T. MORTON to Charles C. Ashley, both of Paris, Illinois, July 1.

DEATHS

EDWARD M. BENCH, Galena; Northwestern University Medical School, 1898. Practiced medicine in Galena for 42 years. Died November 27, 1942 at the age of 70.

ELIZABETH ANNE BERGNER, Chicago; Rush Medical College, Chicago, 1930; on the staffs of the Swedish Covenant and Children's Memorial hospitals; formerly on the visiting staff of the Lewis Memorial Maternity Hospital; aged 46; died, October 26, in the Albert Merritt Billings Hospital of hepatitis.

FIELD B. BEERY, Chicago; National Medical University, Chicago, 1899; aged 64; died, September 18.

BENJAMIN F. CROUTCH, Chicago; Loyola University School of Medicine, 1918. Was active for many years as surgeon for the veterans bureau, and at one time was a member of the examining board of the United States Department of the Interior. At the time of his death he was on the surgical staff of the Walther Memorial, St. Elizabeth's and Illinois Central Hospitals; associate in surgery at the University of Illinois College of Medicine. Died October 29, 1942 at the age of 49 years.

MEYER M. CUTLER, Chicago; University of Illinois College of Medicine, 1937. Resident radiologist at Michael Reese Hospital. Died November 17, 1942 in Miami Beach, Florida. He was 30 years old.

EDWIN HAMILL, Chicago; Rush Medical College, 1888. Practicing physician in west side Chicago for 55 years. Died November 14, 1942 at the age of 79.

MARTHA HAYWARD, Aurora; University of Illinois College of Medicine, 1907. Practiced medicine in Colorado and was member of Alpha Epsilon Iota, Woman's national medical fraternity. Died October 30, 1942 at the age of 74.

WILLIAM ROY HEDRICK, Decatur; University of Illinois College of Medicine, 1910. Died suddenly of a heart attack on November 17, 1942 at the age of 56.

DAVID S. HILLIS, Chicago; Northwestern University Medical School, 1898. Member of the Northwestern faculty in 1908 and was named professor of obstetrics in 1939. At the time of his death was chairman of the obstetrical division of Cook County Hospital and Head of the obstetrical department of Passavant Hospital. At one time associated with the late Dr. Joseph B. DeLee, founder of Chicago Lying-In Hospital, and was active in the invention and development of the DeLee-Hillis stethoscope. He contributed liberally to medical literature, winning particular attention with his work on eclampsia. He served with the U. S. Naval Reserve as a lieutenant commander in World War I and was retired with the rank of captain. Died November 9, 1942 at the age of 69 years.

VINCENT FREDERICK KELLER, Chicago; Bennett Medical College, Chicago, 1913; aged 55; died, September 25, in the Veterans Admission Facility, Hines, Ill., of heart disease.

J. BROWN LORING, Chicago; McGill University, Montreal, Canada, 1883; post-graduate work at Royal College of Surgeons in London. Served for a number of years as assistant professor of clinical ophthalmology at the University of Illinois. Died November 6, 1942 at the age of 83.

CHARLES M. MATTER, Chicago; Northwestern University Medical School, 1898. Practicing physician in Chicago for 40 years. Died of a heart attack November 7, 1942 at the age of 67.

BRYAN L. MITCHELL, Wilmette; Rush Medical School, 1925. Died October 29, 1942 at the age of 45.

BEN REITMAN, Chicago; Chicago College of Medicine and Surgery, 1904. Died of heart attack on November 16, 1942 at 63 years of age.

DOROTHY K. O'CONNOR (Wife of Dr. G. H. Rezek) Riverside; University of Illinois College of Medicine, 1938. Died November 20, 1942 at the age of 31.

ALBERT LEROY REUSS, Belleville; Washington University School of Medicine, St. Louis, Missouri, 1903. Was widely known surgeon in Belleville for many years. Health Commissioner at one time. Died from coronary occlusion October 22nd, 1942 at the age of 61 years.

RICHARD S. SMITH, Chicago; Howard University School of Medicine, Washington, D. C., 1905. Practiced in Chicago for 30 years. Died November 26, 1942 at the age of 61.

RUFUS B. STOLP, Wilmette; Chicago Homeopathic Medical College; 1897. On medical staff at Evanston Hospital; associate in medicine at Northwestern University Medical School, Chicago, 1900; aged 69; died, 67 years of age.

WILLIAM JAMES SWIFT, Chicago; Rush Medical College, 1904. Formerly, associate professor of Surgery at Loyola University School of Medicine; at the time of death was attending surgeon at Alexian Brothers' and St. Elizabeth's Hospitals. During World War I was in command of the First Illinois field base hospital and was a major in the 124th field artillery for many years. Died November 10, 1942 at the age of 64.

CARL H. THOMSEN, Dolton, Ill.; Northwestern University Medical School, Chicago, 1900; aged 69; died, October 22, in St. Luke's Hospital, Chicago, of peritonitis following an abdominal operation.

CARL V. URBOM, Rockford; Hering Medical College, Chicago, 1903. Widely known physician in Rockford for 39 years. Died October 30, 1942 at the age of 83.

JEWEL H. VAUGHT, Chicago; Central College of Physicians and Surgeons, Indianapolis, 1903. Retired for 15 years. Died October 30, 1942 at the age of 68.

HOMER SAMUEL WARREN JR., Chicago; University of Illinois College of Medicine, Chicago, 1922; member of the Illinois State Medical Society; aged 51; past president of the American Hospital, where he died, October 18, of carcinoma following x-ray burns.

OLIVER B. YARNELL, Wenona; Keokuk Medical College, College of Physicians and Surgeons, Keokuk, 1902. Formerly of Bowen, Illinois. Died October 24, 1942 at the age of 66 years.

EDWARD C. ZOLL, Elmwood; Keokuk Medical College, Iowa, 1898. Practicing physician in Elmwood for the past 44 years. Died November 13, 1942 at 80 years of age.

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.

Peoria, Ill.

MY PEGASUS

My Pegasus, that I so oft bestride,
Is not a graceful, sprightly steed;
He never canters through the country side,
Nor gallops gaily o'er the mead.

With sunken flanks and withers lean and flat
And ring bones on his both fore feet,
With spavins, curbs and splints, and this and that,
Small wonder he is not so fleet.

His stifle joint is sprung, he has the heaves,
His off hind leg is somewhat lame,
And though wind-broken he somehow achieves
A gayness in his ancient frame.

He is withal a loyal, friendly nag,
Right merrily we ride throughout each day;
Since neither has a lot o'er which to brag,
We seem to fit each other every way.

CHRISTMAS SHOPPING

With only two shopping days more
He tries to get into a store,
Around him are women who struggle and shout,
They jab him and poke him and shove him about,
He gasps for his breath with his tongue hanging out,
His body is beaten and sore.

For only wild women abound,
Their shrieks make the rooms all resound,
They snatch at each thing that he tries to select,
And all he can hope for is what they reject,
It does him no good to protest or object,
And never a clerk to be found.

He reaches the counter for toys,
Surrounded by girls and by boys,
They push at his kness and they step on his toes,
They clutter his pathway wherever he goes,
With hat all awry and a bump on his nose,
He's deafened by clatter and noise.

All battered by matron and miss,
His search he at last must dismiss,
He's lost some illusions, he now is a wreck,
Next Christmas he'll send every body a check,
And never go shopping at risk of his neck,
If Holiday Spirit is this.

RED LEAVES

Our lives go through a cycle
Like leaves upon a tree,
That grow throughout their season,
Then reach senility.

Where most are withered, faded,
And many sombre brown,
And hordes of them are yellow,
But red leaves are the crown.

I care not where winds blow me,
Nor when nor what my fate —
I hope to be a red leaf,
A bright and cheery red leaf,

A gay and brilliant red leaf,
'Til I disintegrate.

Professor Paresis says, "Some girls show distinction in their dress while others merely show distinctly."

The World Over

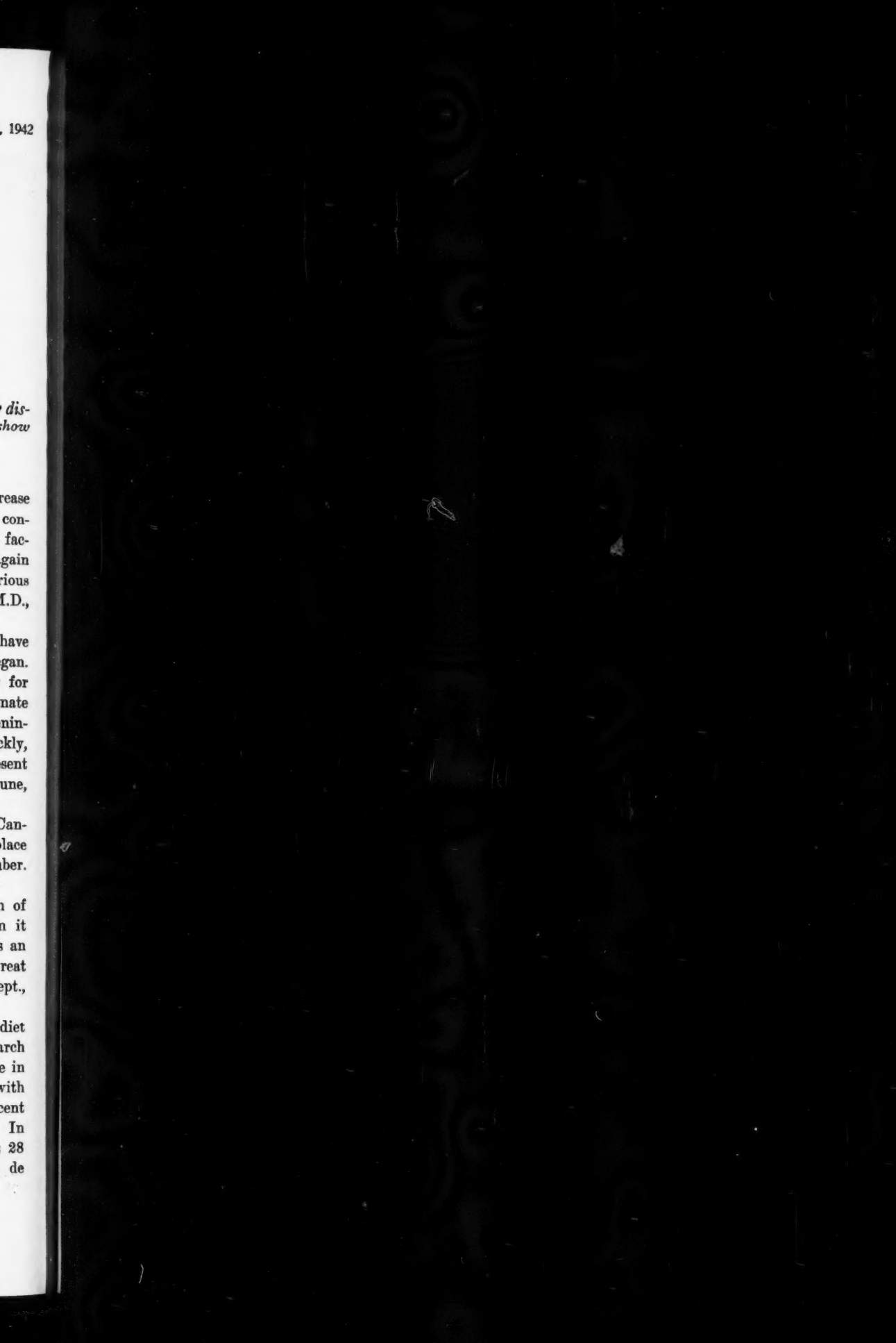
Tuberculosis already appears on the increase in the warring nations in the second world conflict. No single cause is apparent. All the factors concerned in the other world war again operate. Malnutrition is known to be serious in certain countries. Esmond R. Long, M.D., Amer. Rev. of Tuber., June, 1942.

Deaths from tuberculosis in Scotland have been increasing in number since the war began. The increases are in every instance larger for females than for males and the proportionate increases are greatest for tuberculosis meningitis, a form of the disease which reacts quickly, to increase in the amount of infection present in the community. Editorial, Tubercle, June, 1942.

Tuberculosis is again on the increase in Canada and has gone from eighth to seventh place as a cause of death. Bulletin, Canadian Tuber. Assn., Sept., 1942.

Even after 1,000 days of war the health of the nation is in many respects better than it was in peacetime. Tuberculosis, however, is an exception. The Minister of Health for Great Britain. Bulletin, Canadian Tuber. Assn., Sept., 1942.

Despite the precaution of a supplementary diet for persons with active tuberculosis, the march of the disease has been ominously progressive in France. The figures for 1941 compared with corresponding ones for 1939 show a 10 per cent increase in mortality from tuberculosis. In children from one to nine, the increase was 28 per cent. Marcel Moine, M.D., Academie de Medecin de Paris, Sept., 1941.

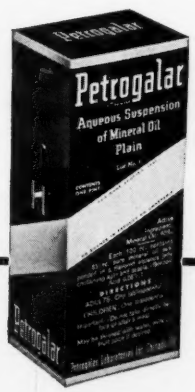


Come and get it!

Look at him go! First in any chow line, this rookie's enthusiastic gorging is offset, fortunately, by a strenuous program of exercise. His counterpart among the "Rocking Chair Brigade" still has to be considered. When over-indulgence and lack of exercise are causative factors in constipation, relief may often be obtained with Petrogalar.*

It helps to soften thoroughly the stool and encourages regular, comfortable bowel movement. Petrogalar is acceptable even with "stuffy" patients because of its pleasant taste and ready miscibility in water.

It may be taken directly from the spoon or from a glass. Consider Petrogalar for the treatment of constipation.



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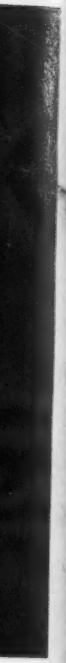

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